

1

00:00:01,970 --> 00:00:03,970

- So I want to start directly

2

00:00:03,970 --> 00:00:06,043

with introductions for for today.

3

00:00:07,321 --> 00:00:08,470

- [Man] This is correct.

4

00:00:08,470 --> 00:00:10,180

- So what we're going
to do is we're going to

5

00:00:10,180 --> 00:00:14,800

have Carol give us a
recap and then after Carol

6

00:00:16,045 --> 00:00:17,520

if you want to make some initial comments

7

00:00:17,520 --> 00:00:18,920

I think that would be great.

8

00:00:19,960 --> 00:00:21,490

Is that okay with you, Nora?

9

00:00:21,490 --> 00:00:23,403

- Absolutely, yes, of course.

10

00:00:25,300 --> 00:00:27,280

- Okay everybody, thank you for joining.

11

00:00:27,280 --> 00:00:29,850

It's good to be with you for day two.

12

00:00:29,850 --> 00:00:31,850

I'm going to now turn everything over.

13

00:00:31,850 --> 00:00:34,390

Just remember, use for questions,

14

00:00:34,390 --> 00:00:39,202

please use that Q and A box,

and then you can, if it's

15

00:00:39,202 --> 00:00:42,260

for a specific person, please

add that person's name.

16

00:00:42,260 --> 00:00:44,948

All right, we're going to

get, turn everything over

17

00:00:44,948 --> 00:00:45,898

to now, Dr. Eklund.

18

00:00:48,040 --> 00:00:49,427

- Thank you.

19

00:00:49,427 --> 00:00:50,260

Welcome everyone to day two,

20

00:00:50,260 --> 00:00:52,287

"Enhancing Health

Disparities Research Related

21

00:00:52,287 --> 00:00:54,417

"to Substance Use and Addiction:

22

00:00:54,417 --> 00:00:56,670

"Research Gaps and Opportunity."

23

00:00:56,670 --> 00:00:59,490

We'll begin the program at this time

24

00:00:59,490 --> 00:01:03,910

and Dr. Carlos Blanco, we'll
begin our agenda today.

25
00:01:03,910 --> 00:01:04,763
Welcome everyone.

26
00:01:05,730 --> 00:01:06,563
- Yeah, yeah.

27
00:01:06,563 --> 00:01:08,099
So, thanks, yeah.

28
00:01:08,099 --> 00:01:08,932
Thanks and welcome everybody.

29
00:01:08,932 --> 00:01:10,750
Yesterday was a really,
really successful day.

30
00:01:10,750 --> 00:01:15,506
A lot of ideas, really robust
discussion, really satisfying.

31
00:01:15,506 --> 00:01:19,130
And today we have also a
very, very exciting program.

32
00:01:19,130 --> 00:01:21,070
So whereas yesterday we focused more

33
00:01:21,070 --> 00:01:22,240
on the social aspects,

34
00:01:22,240 --> 00:01:26,644
today we're going to focus more
on the basic science aspect.

35
00:01:26,644 --> 00:01:28,697
Probably many of you joined us yesterday,

36

00:01:28,697 --> 00:01:31,110
but for those of you who
didn't have a chance to join us

37

00:01:31,110 --> 00:01:34,360
we have asked Carol, whom
nerve from the division

38

00:01:34,360 --> 00:01:36,620
of therapeutics and medical consequences

39

00:01:37,767 --> 00:01:39,670
to give us a brief recap of yesterday.

40

00:01:39,670 --> 00:01:42,340
And that should set us up for, for today.

41

00:01:42,340 --> 00:01:43,940
So Carol, whenever you're ready.

42

00:01:46,350 --> 00:01:47,865
– Thank you very much, Carlos.

43

00:01:47,865 --> 00:01:50,810
First, let me say that
yesterday's keynote speakers

44

00:01:50,810 --> 00:01:54,360
and panel discussants provided
a wealth of information

45

00:01:54,360 --> 00:01:57,568
and insight into ways NIDA
can enhance its portfolio

46

00:01:57,568 --> 00:01:59,880
on health disparities research.

47

00:01:59,880 --> 00:02:02,100

So in my very brief summary,

48

00:02:02,100 --> 00:02:03,610

I'm going to be highlighting some

49

00:02:03,610 --> 00:02:06,800

of the concrete steps

that I heard discussed

50

00:02:06,800 --> 00:02:09,600

recognizing that these

are just first steps

51

00:02:09,600 --> 00:02:13,210

and that much more work

will need to be done.

52

00:02:13,210 --> 00:02:15,853

So if I could have my first slide.

53

00:02:19,820 --> 00:02:21,950

Great, thank you very much.

54

00:02:21,950 --> 00:02:25,470

So, as I said, these are going

to be organized according

55

00:02:25,470 --> 00:02:27,540

to recommendations that were made

56

00:02:27,540 --> 00:02:30,110

by our panel discussants and speakers.

57

00:02:30,110 --> 00:02:33,170

The first of which is the

need to increase funding

58

00:02:33,170 --> 00:02:35,040
of community-based research

59
00:02:35,040 --> 00:02:38,100
so that NIDA's grant portfolio better

60
00:02:38,100 --> 00:02:41,560
reflects its commitment to
addressing racial inequities

61
00:02:41,560 --> 00:02:43,900
in substance abuse treatment.

62
00:02:43,900 --> 00:02:47,562
What was mentioned and
which we all can agree upon

63
00:02:47,562 --> 00:02:50,700
is that the environment impacts behavior

64
00:02:50,700 --> 00:02:54,230
and the environment clearly
influences vulnerability

65
00:02:54,230 --> 00:02:57,750
to substance use and
treatment outcomes success.

66
00:02:57,750 --> 00:03:02,750
The excuse me, Dr.
Alegria spoke eloquently

67
00:03:04,860 --> 00:03:09,010
about the idea that treatment
and research must be connected

68
00:03:09,010 --> 00:03:12,510
to the communities where
people of color live.

69

00:03:12,510 --> 00:03:15,003

And what does that actually mean?

70

00:03:15,003 --> 00:03:18,570

For me, it meant and I

think for many of us,

71

00:03:18,570 --> 00:03:22,500

it meant that community-based

research allows

72

00:03:22,500 --> 00:03:25,490

for the direct investigation

of those factors

73

00:03:25,490 --> 00:03:29,510

not only create, but

perpetuate health disparity.

74

00:03:29,510 --> 00:03:32,870

There was a robust discussion

of many of these factors.

75

00:03:32,870 --> 00:03:34,766

I'm only going to mention a few.

76

00:03:34,766 --> 00:03:37,780

They have to do with, with questions about

77

00:03:37,780 --> 00:03:40,660

and issues about employment

and working conditions,

78

00:03:40,660 --> 00:03:43,750

housing, the availability of healthcare,

79

00:03:43,750 --> 00:03:46,315

and particularly within this country,

80

00:03:46,315 --> 00:03:50,670
the availability of medical
and health insurance.

81

00:03:50,670 --> 00:03:53,610
There were also important
discussions about barriers

82

00:03:53,610 --> 00:03:56,670
to post-treatment community
reintegration, as well

83

00:03:56,670 --> 00:04:01,670
as the policies and laws that
perpetuate health disparity.

84

00:04:01,700 --> 00:04:06,700
It was also discussed that
NIDA needs to be committed

85

00:04:07,070 --> 00:04:09,880
to developing strategies to mandate equity

86

00:04:09,880 --> 00:04:11,440
to improve health disparities

87

00:04:11,440 --> 00:04:14,250
and intervene on social
determinants of health.

88

00:04:14,250 --> 00:04:16,780
And for me, the big take home message

89

00:04:16,780 --> 00:04:19,880
about this recommendation is that NIDA's

90

00:04:19,880 --> 00:04:23,520
ability to balance its portfolio
towards greater inclusion

91

00:04:23,520 --> 00:04:27,240

of community level research
is going to go a long way

92

00:04:27,240 --> 00:04:30,240

in improving substance
use treatment outcome

93

00:04:30,240 --> 00:04:32,583

in underserved population.

94

00:04:32,583 --> 00:04:37,350

So that leads me to the second
recommendation that was made.

95

00:04:37,350 --> 00:04:42,260

And that has to do more with
study design, the idea being

96

00:04:42,260 --> 00:04:47,260

that it will be important
that we recognize the validity

97

00:04:47,880 --> 00:04:50,457

of different clinical study designs,

98

00:04:50,457 --> 00:04:53,490

particularly when we're
talking about studies

99

00:04:53,490 --> 00:04:55,370

addressing racial inequity.

100

00:04:55,370 --> 00:04:58,760

So we're all aware of
randomized clinical trials

101

00:04:58,760 --> 00:05:00,690

and the charge was in essence,

102

00:05:00,690 --> 00:05:02,810

we need to start thinking beyond that.

103

00:05:02,810 --> 00:05:05,670

Clearly, RCTs are the gold standard

104

00:05:05,670 --> 00:05:08,400

and they have an
important, important place

105

00:05:08,400 --> 00:05:12,680

in clinical research, but
there are other study designs,

106

00:05:12,680 --> 00:05:16,170

study designs that are
careful not to control

107

00:05:16,170 --> 00:05:18,290

for the contextual variables that are

108

00:05:18,290 --> 00:05:20,990

the actual drivers of inequity.

109

00:05:20,990 --> 00:05:25,030

As a result, when we use
these kinds of designs,

110

00:05:25,030 --> 00:05:28,505

we're actually studying the
factors that are important.

111

00:05:28,505 --> 00:05:33,505

Another recommendation tied to this was

112

00:05:34,200 --> 00:05:38,500

that we need to include racial minorities

113

00:05:38,500 --> 00:05:40,430
beyond ticking the box.

114

00:05:40,430 --> 00:05:43,940
And I think unfortunately part
of my slide is, is cut off.

115

00:05:43,940 --> 00:05:46,390
But the idea here is

116

00:05:46,390 --> 00:05:49,940
if we're going to call this
racial equity research,

117

00:05:49,940 --> 00:05:52,930
underrepresented populations
have to be the focus

118

00:05:52,930 --> 00:05:54,200
of that research.

119

00:05:54,200 --> 00:05:57,260
It's not just saying they're
part of the study design.

120

00:05:57,260 --> 00:06:00,260
The purpose of the study
design is to investigate

121

00:06:00,260 --> 00:06:02,650
and evaluate their challenges.

122

00:06:02,650 --> 00:06:05,270
If I could have, well,
excuse me, one second.

123

00:06:05,270 --> 00:06:08,180
So how do we implement these

kinds of recommendations?

124

00:06:08,180 --> 00:06:11,405

And that brings me to the next slide.

125

00:06:11,405 --> 00:06:14,190

The third recommendation that was made

126

00:06:14,190 --> 00:06:16,070

by the group yesterday was

127

00:06:16,070 --> 00:06:20,070

that neither should work where
possible to implement changes

128

00:06:20,070 --> 00:06:21,970

to the scientific review process.

129

00:06:21,970 --> 00:06:24,700

The purpose here is that we should try to

130

00:06:25,687 --> 00:06:28,630

encourage addiction research that flows

131

00:06:28,630 --> 00:06:31,720

through the social science lens.

132

00:06:31,720 --> 00:06:32,730

And what does that mean?

133

00:06:32,730 --> 00:06:35,140

Well, one way that can
be accomplished is to go

134

00:06:35,140 --> 00:06:39,490

beyond what was called
Champions on Study section.

135

00:06:39,490 --> 00:06:43,390
And I just think that was
a very kind way of saying

136
00:06:43,390 --> 00:06:48,010
that we need much more racial
diversity in study sections.

137
00:06:48,010 --> 00:06:49,490
We can have just one

138
00:06:49,490 --> 00:06:52,490
or two people who are
there to be the voice

139
00:06:52,490 --> 00:06:56,410
of underrepresented populations,
but that's not sufficient.

140
00:06:56,410 --> 00:06:59,810
We also, it was also recommended that NIDA

141
00:06:59,810 --> 00:07:03,830
look to people with
research expertise that is

142
00:07:03,830 --> 00:07:07,590
outside its traditional
portfolio of review.

143
00:07:07,590 --> 00:07:08,470
What does that mean?

144
00:07:08,470 --> 00:07:11,290
Well, the recommendation
was social scientists.

145
00:07:11,290 --> 00:07:14,160
Some people talked about
economists, urban planners.

146

00:07:14,160 --> 00:07:16,280

These are people who
are doing racial health

147

00:07:16,280 --> 00:07:18,110

disparity research, but are looking

148

00:07:18,110 --> 00:07:19,740

at it from a different perspective,

149

00:07:19,740 --> 00:07:22,640

a perspective that it
was suggested that NIDA

150

00:07:22,640 --> 00:07:24,030

might benefit from.

151

00:07:24,030 --> 00:07:25,930

They're the kinds of people that can look

152

00:07:25,930 --> 00:07:28,892

at certain applications and say, huh,

153

00:07:28,892 --> 00:07:31,379

from my perspective, this is important.

154

00:07:31,379 --> 00:07:35,580

And that's something that
was highly recommended

155

00:07:35,580 --> 00:07:37,335

to improve the funding

156

00:07:37,335 --> 00:07:41,199

of racial equity grants.

157

00:07:41,199 --> 00:07:44,680

Diversion, equity inclusion
training for reviewers,

158

00:07:44,680 --> 00:07:47,860
that was also something
that was discussed.

159

00:07:47,860 --> 00:07:50,280
It's important because what it does is

160

00:07:50,280 --> 00:07:54,500
it signals to reviewers NIDA's priority

161

00:07:54,500 --> 00:07:57,400
in funding racial health disparity grants.

162

00:07:57,400 --> 00:08:00,140
It's putting it in the
forefront of their minds.

163

00:08:00,140 --> 00:08:02,460
When you're reviewing grants, keep this,

164

00:08:02,460 --> 00:08:04,060
this is a priority by NIDA.

165

00:08:04,060 --> 00:08:05,740
We want you to attend to this.

166

00:08:05,740 --> 00:08:07,800
And I should say, it's something
that I should've mentioned

167

00:08:07,800 --> 00:08:08,750
from the beginning,

168

00:08:09,663 --> 00:08:12,674
this was all outlined in
Dr. Ferholdien's talk.

169

00:08:12,674 --> 00:08:16,370

I pulled almost everything
out of that presentation.

170

00:08:16,370 --> 00:08:17,850

She also talked about something

171

00:08:17,850 --> 00:08:19,807

that I wasn't familiar with at all.

172

00:08:19,807 --> 00:08:23,800

And that is when reviewers
are evaluating the

173

00:08:23,800 --> 00:08:28,800

productive productivity of PIs,
they might, it might be best

174

00:08:29,640 --> 00:08:33,193

if they would look at the
approaches differently

175

00:08:33,193 --> 00:08:36,350

for PIs that are submitting
community-based research.

176

00:08:36,350 --> 00:08:37,183

What does that mean?

177

00:08:37,183 --> 00:08:39,380

Well, the normal metric
is number of publications.

178

00:08:39,380 --> 00:08:41,000

That's measure of productivity.

179

00:08:41,000 --> 00:08:42,250

Now it might not be appropriate

180

00:08:42,250 --> 00:08:45,550

for PIs submitting
community-based research.

181

00:08:45,550 --> 00:08:47,190

Maybe what they should be,

182

00:08:47,190 --> 00:08:49,320

their research should be based on or, or

183

00:08:49,320 --> 00:08:53,280

or measured by is what impact
does it have on the community?

184

00:08:53,280 --> 00:08:56,280

What kind of, what is the
work that they're doing to

185

00:08:56,280 --> 00:08:58,617

do to improve the lives of people

186

00:08:58,617 --> 00:09:02,860

dealing with substance abuse
students in the community?

187

00:09:02,860 --> 00:09:04,510

And so I thought that was fascinating

188

00:09:04,510 --> 00:09:06,440

because that's a different way of looking

189

00:09:06,440 --> 00:09:08,810

at PI productivity.

190

00:09:08,810 --> 00:09:12,024

And finally, the, the last recommendation,

191

00:09:12,024 --> 00:09:15,250
had to do with funding set aside

192
00:09:15,250 --> 00:09:17,630
for disparity of research, and here again,

193
00:09:17,630 --> 00:09:20,550
I want to spine point to a term coined

194
00:09:20,550 --> 00:09:23,870
By Dr. Ferholdien, which
is if we want equity

195
00:09:23,870 --> 00:09:25,650
we need to mandate equity.

196
00:09:25,650 --> 00:09:26,630
What does that mean?

197
00:09:26,630 --> 00:09:29,940
Number one, including benchmarks
for funding applications

198
00:09:29,940 --> 00:09:32,120
from minority serving institutions.

199
00:09:32,120 --> 00:09:34,740
Here, we're talking about
historically black colleges

200
00:09:34,740 --> 00:09:37,984
and universities, tribal
colleges and universities,

201
00:09:37,984 --> 00:09:42,984
and the like, and
neither has a good record

202
00:09:43,620 --> 00:09:48,620

of setting aside training
grants, but there was an emphasis

203

00:09:49,100 --> 00:09:51,840
in the discussion that
it should go beyond that.

204

00:09:51,840 --> 00:09:54,750
What we want to do is support programs

205

00:09:54,750 --> 00:09:56,850
of research that are submitted

206

00:09:56,850 --> 00:09:59,770
but underrepresented minority scientists.

207

00:09:59,770 --> 00:10:00,980
And I'm, you know

208

00:10:00,980 --> 00:10:04,933
excited to repeat what
was presented yesterday

209

00:10:04,933 --> 00:10:08,975
by both Will and Carlos,
and that is Dr. Volkov's,

210

00:10:08,975 --> 00:10:13,975
both Dr. Volkov's commitment
to set aside funds

211

00:10:16,630 --> 00:10:18,160
for disparity research.

212

00:10:18,160 --> 00:10:20,070
There has been a commitment

213

00:10:20,070 --> 00:10:22,080
of over a hundred million dollars

214

00:10:22,080 --> 00:10:24,440
over the next 10 years
that will be dedicated

215

00:10:24,440 --> 00:10:28,190
to funding research, to reduce
disparities and inequities.

216

00:10:28,190 --> 00:10:30,530
And with that, I want to
thank you for listening,

217

00:10:30,530 --> 00:10:33,665
and I will hand this back over to Will,

218

00:10:33,665 --> 00:10:35,730
excuse me, Carlos.

219

00:10:35,730 --> 00:10:37,343
- It's okay.

220

00:10:37,343 --> 00:10:39,658
We'll and I, are of
one mind, so one can go

221

00:10:39,658 --> 00:10:41,830
to for the other and we
worked together really well.

222

00:10:41,830 --> 00:10:42,663
So thanks Carol.

223

00:10:42,663 --> 00:10:45,040
That was a very, very good summary.

224

00:10:45,040 --> 00:10:47,913
And, and now what we want to do is ask her

225

00:10:47,913 --> 00:10:51,520
that her work of Nora, if you
have any additional comments

226

00:10:51,520 --> 00:10:53,853
as we start our journey today.

227

00:10:54,690 --> 00:10:58,160
- Well, I actually thought
that the summary was excellent

228

00:10:58,160 --> 00:11:00,480
and unfortunately, because
of network connection

229

00:11:00,480 --> 00:11:03,670
problems that we had at the
NIH, for those that have very

230

00:11:03,670 --> 00:11:06,350
slow service, I was thrown out.

231

00:11:06,350 --> 00:11:09,170
So I couldn't listen to
all of the presentations,

232

00:11:09,170 --> 00:11:12,500
but these gave me a very
good perspective of some

233

00:11:12,500 --> 00:11:14,023
of the most salient issues.

234

00:11:15,283 --> 00:11:17,300
And I do think, I mean, I
was resonating very much

235

00:11:17,300 --> 00:11:21,620
with the concept of Monday

thing equity on the, and I think

236

00:11:21,620 --> 00:11:25,490
that in terms of how do we
translate that into actionables?

237

00:11:25,490 --> 00:11:29,000
And there are some suggestions
that were given there

238

00:11:29,000 --> 00:11:33,210
that I think would help us, and
definitely having benchmarks

239

00:11:33,210 --> 00:11:38,210
is in my view to the only way
that we can accelerate equity

240

00:11:39,220 --> 00:11:44,220
on research and on
knowledge that will get rid

241

00:11:44,460 --> 00:11:47,630
of the health disparities,
that we are all very

242

00:11:47,630 --> 00:11:51,060
aware we are currently unhappy living.

243

00:11:51,060 --> 00:11:56,060
So I thank you very Cara,
for that excellent summary.

244

00:11:56,300 --> 00:11:59,991
And now I want to hear the
presentations and very duressed

245

00:11:59,991 --> 00:12:01,110
that is a fantastic program.

246

00:12:01,110 --> 00:12:05,510

So Carlos and Will, thanks
again for your organization.

247

00:12:05,510 --> 00:12:07,106

- Thanks, Vanessa.

248

00:12:07,106 --> 00:12:09,650

So I will turn it to Will and I think Will

249

00:12:09,650 --> 00:12:12,855

is going to introduce the
first time (indistinct).

250

00:12:12,855 --> 00:12:14,910

so Will, whenever you're ready.

251

00:12:14,910 --> 00:12:15,743

- Perfect, great.

252

00:12:15,743 --> 00:12:18,432

Thank you, Carol, thank you, Dr. Volkov.

253

00:12:18,432 --> 00:12:20,040

So we're going to switch gears today.

254

00:12:20,040 --> 00:12:21,290

Yesterday, we talked a lot

255

00:12:21,290 --> 00:12:23,390

about social determinants of health.

256

00:12:23,390 --> 00:12:25,340

Today, we will focus primarily

257

00:12:25,340 --> 00:12:29,150

on harnessing basic science to
understand racial disparities

258

00:12:29,150 --> 00:12:31,023
and the impact of racism.

259

00:12:31,023 --> 00:12:33,310
We hope at the end of today

260

00:12:33,310 --> 00:12:36,500
we will have some discussions
on the integration

261

00:12:36,500 --> 00:12:40,110
of social determinants of
health in basic science.

262

00:12:40,110 --> 00:12:42,260
So that is something that we hope

263

00:12:42,260 --> 00:12:44,810
to challenge our group today

264

00:12:44,810 --> 00:12:47,563
to have some discussions
and recommendations on.

265

00:12:47,563 --> 00:12:49,220
So without further ado

266

00:12:49,220 --> 00:12:52,270
I'm honored to introduce
our first presenter

267

00:12:52,270 --> 00:12:55,070
our first keynote
presentation Dr. Dzirasa,

268

00:12:55,070 --> 00:12:58,160
who is the Associate Professor, Department

269
00:12:58,160 --> 00:13:00,750
of Psychiatry and Behavioral Sciences

270
00:13:00,750 --> 00:13:02,990
at Duke University Medical Center.

271
00:13:02,990 --> 00:13:05,110
We'll present on genomic architecture,

272
00:13:05,110 --> 00:13:07,710
brain science, and neuro ethics.

273
00:13:07,710 --> 00:13:10,950
Dr. Dzirasa, welcome, and thank you.

274
00:13:10,950 --> 00:13:13,012
- Well, thanks so much for having me here.

275
00:13:13,012 --> 00:13:15,950
Let me go ahead and screen share.

276
00:13:15,950 --> 00:13:18,347
I'm assuming a quick thumbs up

277
00:13:18,347 --> 00:13:19,723
if everyone can see that okay.

278
00:13:21,090 --> 00:13:22,053
All right, great.

279
00:13:23,610 --> 00:13:26,150
I am Dr. Dzirasa,

280
00:13:26,150 --> 00:13:28,076
I'm an Assistant Professor
or Associate Professor

281

00:13:28,076 --> 00:13:29,300
of Psychiatry and Behavioral Sciences,

282
00:13:29,300 --> 00:13:32,890
Biomedical Engineering, and
Neurobiology at Duke University.

283
00:13:32,890 --> 00:13:34,350
And if anyone has any thoughts

284
00:13:34,350 --> 00:13:36,990
or questions that they can't
get in during the panel

285
00:13:36,990 --> 00:13:41,990
feel free to write me at
@KafuiDzirasa on Twitter.

286
00:13:42,130 --> 00:13:44,780
So I am a psychiatrist, as I mentioned,

287
00:13:44,780 --> 00:13:47,970
and I got really interested
in basic research

288
00:13:47,970 --> 00:13:52,004
as an enterprise to bring
healing to my own family.

289
00:13:52,004 --> 00:13:56,620
So my family has been
deeply impacted by illnesses

290
00:13:56,620 --> 00:13:59,880
like schizophrenia, depression,
and bipolar disorder.

291
00:13:59,880 --> 00:14:01,730
Many of which are of course,

292
00:14:01,730 --> 00:14:04,370
comorbid with substance use disorders.

293
00:14:04,370 --> 00:14:07,300
And then thinking about the
pathway to ultimately come

294
00:14:07,300 --> 00:14:08,780
up with treatments and cures,

295
00:14:08,780 --> 00:14:12,870
one of the most exciting
discoveries for myself

296
00:14:12,870 --> 00:14:15,930
and my family over the last few
years has been the discovery

297
00:14:15,930 --> 00:14:19,092
of what we begin to say is
the genomic architecture

298
00:14:19,092 --> 00:14:20,670
of schizophrenia.

299
00:14:20,670 --> 00:14:23,030
And I'll sort of point out

300
00:14:23,030 --> 00:14:25,550
at this point in time that I'm
a basic science researcher.

301
00:14:25,550 --> 00:14:29,560
So I work primarily with mice, but my hope

302
00:14:29,560 --> 00:14:32,020
that the talk today will show
you how the work that we do

303

00:14:32,020 --> 00:14:34,690
in basic research laboratories,
ultimately connect

304

00:14:34,690 --> 00:14:38,121
with the human and clinical clinical

305

00:14:38,121 --> 00:14:39,510
and translational enterprise
as they move forward.

306

00:14:39,510 --> 00:14:41,030
So this is just a slide.

307

00:14:41,030 --> 00:14:43,550
They, it was a study that
was done, a genomic study,

308

00:14:43,550 --> 00:14:46,490
in which they were looking at
the whole genomic architecture

309

00:14:46,490 --> 00:14:49,130
of individuals with schizophrenia.

310

00:14:49,130 --> 00:14:53,640
And the question here is, are
there genes that give rise

311

00:14:53,640 --> 00:14:56,549
or risk to schizophrenia
when you compare those

312

00:14:56,549 --> 00:14:58,890
to the genes of folks who do not?

313

00:14:58,890 --> 00:14:59,990
And in this study

314

00:14:59,990 --> 00:15:04,989
they were able to find
108 associative genes,

315

00:15:04,989 --> 00:15:07,740
in other words, 108 marks
or hits in the genome

316

00:15:07,740 --> 00:15:10,470
which give higher risk for schizophrenia.

317

00:15:10,470 --> 00:15:12,490
So this was of course, extremely important

318

00:15:12,490 --> 00:15:14,750
for me in the work that
I think about my lab.

319

00:15:14,750 --> 00:15:17,070
What I would basically do
is take one of these genes

320

00:15:17,070 --> 00:15:20,170
and then study how it
changes the brain function

321

00:15:20,170 --> 00:15:24,843
of a preclinical species or
model organism like a mouse.

322

00:15:24,843 --> 00:15:28,410
Now, one of the things that's
really important to appreciate

323

00:15:28,410 --> 00:15:30,920
about these studies that have
looked at genome architecture,

324

00:15:30,920 --> 00:15:35,920

this is a, a study of
over 100,000 individuals.

325

00:15:35,980 --> 00:15:40,126
And I, I, I, I never used
the word exclude, but

326

00:15:40,126 --> 00:15:42,037
but what I became aware
of was, if you look

327

00:15:42,037 --> 00:15:45,000
at the study of over 100,000 individuals,

328

00:15:45,000 --> 00:15:48,979
there was no one of African
ancestry in these studies.

329

00:15:48,979 --> 00:15:51,500
And I don't like using the word
exclude, but it's, you know

330

00:15:51,500 --> 00:15:53,880
from a simple math perspective, it's

331

00:15:53,880 --> 00:15:56,410
it's hard to appreciate how a study

332

00:15:56,410 --> 00:15:59,850
of that large would
statistically not include anyone

333

00:15:59,850 --> 00:16:01,920
of African ancestry, but
this is certainly not

334

00:16:01,920 --> 00:16:05,350
the case simply with neuroscience research

335

00:16:05,350 --> 00:16:07,340
or mental health research.

336
00:16:07,340 --> 00:16:09,550
On the right, I'm just
showing you a slide,

337
00:16:09,550 --> 00:16:11,970
looking at our understanding of genomics

338
00:16:11,970 --> 00:16:14,260
and the risk of gene changes

339
00:16:14,260 --> 00:16:16,500
and how they're linked
to disease across time.

340
00:16:16,500 --> 00:16:17,580
And what you can see is

341
00:16:17,580 --> 00:16:20,380
that these studies are
dramatically overpopulated

342
00:16:20,380 --> 00:16:22,077
with individuals of European ancestry.

343
00:16:22,077 --> 00:16:23,830
And when I use the term ancestry,

344
00:16:23,830 --> 00:16:26,365
it's basically how have your genes coursed

345
00:16:26,365 --> 00:16:29,850
across space in the world
over the last 500 years.

346
00:16:29,850 --> 00:16:32,910
So these studies, even though, you know

347

00:16:32,910 --> 00:16:36,015
16% of the world is of European
ancestry, the vast majority

348

00:16:36,015 --> 00:16:39,710
of information that we know
about how genes are linked

349

00:16:39,710 --> 00:16:42,693
to disease risks are of
individuals of European ancestry.

350

00:16:42,693 --> 00:16:44,531
And, and this says really important,

351

00:16:44,531 --> 00:16:46,190
really important implications

352

00:16:46,190 --> 00:16:48,550
for how we think about human disease.

353

00:16:48,550 --> 00:16:50,080
Here, I'm just showing you, if we look

354

00:16:50,080 --> 00:16:53,790
across the architecture of
how genes, your gene profile,

355

00:16:53,790 --> 00:16:56,330
so the complicated or complex profile

356

00:16:56,330 --> 00:16:59,880
of genomic differences that you
have based on your ancestry,

357

00:16:59,880 --> 00:17:02,820
how much does that architecture
give you an ability

358

00:17:02,820 --> 00:17:04,900
to predict disease states.

359

00:17:04,900 --> 00:17:07,550
And where I'm just
showing you how that data

360

00:17:07,550 --> 00:17:09,380
that was originally learned in individuals

361

00:17:09,380 --> 00:17:12,040
of European ancestry
extrapolate across populations.

362

00:17:12,040 --> 00:17:14,160
In other words, how much does this apply

363

00:17:14,160 --> 00:17:15,940
to individuals of different ancestry?

364

00:17:15,940 --> 00:17:18,450
And you can see in the
group of individuals

365

00:17:18,450 --> 00:17:21,220
of African ancestry, the
architecture that was learned

366

00:17:21,220 --> 00:17:23,471
in the individuals of
European ancestry fails

367

00:17:23,471 --> 00:17:25,860
to extrapolate, it extrapolates really

368

00:17:25,860 --> 00:17:29,140
really poorly to individuals
of African ancestry.

369

00:17:29,140 --> 00:17:31,324

So I'll shift for a bit and

370

00:17:31,324 --> 00:17:34,230

and go back to the work I

do as a basic scientist.

371

00:17:34,230 --> 00:17:37,520

So I'm interested in how

brains encode emotions.

372

00:17:37,520 --> 00:17:41,330

And I record the activity of

a lot of cells in the brain

373

00:17:41,330 --> 00:17:45,420

and I figure out how they

pull information together.

374

00:17:45,420 --> 00:17:47,150

And I use a set of techniques

375

00:17:47,150 --> 00:17:49,470

called machine learning, right?

376

00:17:49,470 --> 00:17:51,110

So I use complicated,

377

00:17:51,110 --> 00:17:53,390

really high powered

computers to find patterns

378

00:17:53,390 --> 00:17:54,730

in a lot of data.

379

00:17:54,730 --> 00:17:56,800

And so I'll give you an example

of what that looks like.

380

00:17:56,800 --> 00:17:59,640

Imagine we had a task
here, I've got a bunch

381

00:17:59,640 --> 00:18:01,377

of 0's on the screen and
the task is to figure

382

00:18:01,377 --> 00:18:04,850

out what the line of
symmetry is in the 0's.

383

00:18:04,850 --> 00:18:07,140

So I might use my machine
learning algorithm

384

00:18:07,140 --> 00:18:08,530

to determine the line of symmetry

385

00:18:08,530 --> 00:18:11,200

and I learn a really nice line of symmetry

386

00:18:11,200 --> 00:18:13,394

for a bunch of these sample
0's, these six sample 0's.

387

00:18:13,394 --> 00:18:17,480

And then in order to show that
I have done this correctly,

388

00:18:17,480 --> 00:18:19,370

I will go to a new population,

389

00:18:19,370 --> 00:18:21,210

in other words, a new group of 0's,

390

00:18:21,210 --> 00:18:23,270

and I would see how much my line

391

00:18:23,270 --> 00:18:26,290

of symmetry extrapolated
to this new group of 0's.

392

00:18:26,290 --> 00:18:28,580

And you could see that
I've done quite well.

393

00:18:28,580 --> 00:18:32,160

Then I might say, well, let's
make sure we want to be sure

394

00:18:32,160 --> 00:18:34,250

before we start developing
clinical therapeutics

395

00:18:34,250 --> 00:18:36,260

that our line of symmetry is a good one.

396

00:18:36,260 --> 00:18:37,650

So let's go to a new population

397

00:18:37,650 --> 00:18:39,890

and see how much it extrapolates again.

398

00:18:39,890 --> 00:18:41,000

And again, we've found

399

00:18:41,000 --> 00:18:42,610

that we've done a really good job, right?

400

00:18:42,610 --> 00:18:44,350

So this is the idea of training a model

401

00:18:44,350 --> 00:18:45,850

or determining what
the line of symmetry is

402

00:18:45,850 --> 00:18:47,610
and making sure that extrapolates.

403

00:18:47,610 --> 00:18:49,230
All right, now we want to get
a little more complicated.

404

00:18:49,230 --> 00:18:51,707
So we've got a mixed
population of I's and O's.

405

00:18:51,707 --> 00:18:54,170
We want to know how much that
line of symmetry extrapolates.

406

00:18:54,170 --> 00:18:56,160
And again, we do a
really, really good job.

407

00:18:56,160 --> 00:18:57,503
So, so far so good.

408

00:18:57,503 --> 00:19:01,270
So we develop our clinical
therapeutic, and then we apply it

409

00:19:01,270 --> 00:19:03,510
to a broader population
part of the population,

410

00:19:03,510 --> 00:19:05,060
we've got some W's now.

411

00:19:05,060 --> 00:19:08,253
We apply our line of symmetry
and all of a sudden it fails.

412

00:19:08,253 --> 00:19:11,410
And what's your appreciate

here is that the line

413

00:19:11,410 --> 00:19:14,120
of symmetry that we'd learned on the I's

414

00:19:14,120 --> 00:19:17,510
and the 0's does not
extrapolate to the, to the W's.

415

00:19:17,510 --> 00:19:20,180
And what you'd really want to
do in an ideal situation is

416

00:19:20,180 --> 00:19:23,320
that you'd like to
include the W's, the I's,

417

00:19:23,320 --> 00:19:25,750
and the 0's all in your training set.

418

00:19:25,750 --> 00:19:27,580
And the reason why this is
particularly important is

419

00:19:27,580 --> 00:19:28,970
because when you do this

420

00:19:28,970 --> 00:19:31,150
you actually learn a different
line of symmetry, right?

421

00:19:31,150 --> 00:19:32,550
So there still is a solution.

422

00:19:32,550 --> 00:19:35,010
It's actually a different
solution that you would have found

423

00:19:35,010 --> 00:19:38,060

if you only included the
O's or you included the I's.

424

00:19:38,060 --> 00:19:40,220
And now when you go to
a broader population

425

00:19:40,220 --> 00:19:43,310
you find that this line of
symmetry extrapolates again.

426

00:19:43,310 --> 00:19:47,350
So this is the real
world example that links

427

00:19:47,350 --> 00:19:50,810
to the genomic picture that
I showed you previously.

428

00:19:50,810 --> 00:19:52,723
So I'm just showing you a slide here

429

00:19:52,723 --> 00:19:56,740
from my colleague at
Caltech, Viviana Gradinaru,

430

00:19:56,740 --> 00:19:58,100
and I'm going to tell you about a tool

431

00:19:58,100 --> 00:20:00,450
she is developing, some real thoughts

432

00:20:00,450 --> 00:20:02,963
about how to use this to
treat illnesses in humans.

433

00:20:02,963 --> 00:20:06,855
And she's essentially developing
a tool that will allow us

434
00:20:06,855 --> 00:20:10,220
by doing injections as systemic injections

435
00:20:10,220 --> 00:20:12,720
to be able to target new genes

436
00:20:12,720 --> 00:20:14,620
and proteins to cells in the brain.

437
00:20:14,620 --> 00:20:19,220
In other words, we can turn
on and off and change activity

438
00:20:19,220 --> 00:20:22,270
in a brain in a way that's
therapeutic in a targeted way.

439
00:20:22,270 --> 00:20:24,620
So when we think about our
medications that we give

440
00:20:24,620 --> 00:20:27,100
they can activate and
target lots of brain cells,

441
00:20:27,100 --> 00:20:29,030
she wants to target target brain cells

442
00:20:29,030 --> 00:20:32,150
in a very precise way
using these compounds.

443
00:20:32,150 --> 00:20:34,720
And what these compounds will
actually do is they'll the

444
00:20:34,720 --> 00:20:37,140
the, the viral compounds will
cross the blood-brain barrier

445

00:20:37,140 --> 00:20:38,550
and target different cell types.

446

00:20:38,550 --> 00:20:40,810
And so she's developing
this tool and she started

447

00:20:40,810 --> 00:20:43,210
off using a bunch of
different strains of mice.

448

00:20:43,210 --> 00:20:44,980
Now we can all argue that these are

449

00:20:44,980 --> 00:20:46,830
and appreciate that these
are all mice, right?

450

00:20:46,830 --> 00:20:48,037
So the same species,

451

00:20:48,037 --> 00:20:49,920
but just different strains, so different

452

00:20:49,920 --> 00:20:52,650
slightly different genetic
differences in the mice.

453

00:20:52,650 --> 00:20:55,950
And what you found when she
was developing this tool was

454

00:20:55,950 --> 00:20:58,815
that this tool crossed the
blood-brain barrier really well.

455

00:20:58,815 --> 00:21:02,140
In some strains of mice,

the ones researchers

456

00:21:02,140 --> 00:21:05,230
we tend to love the C-57 black six mice,

457

00:21:05,230 --> 00:21:06,910
you see that on the left,
but it didn't work well

458

00:21:06,910 --> 00:21:08,360
in other strains of mice at all

459

00:21:08,360 --> 00:21:10,670
the fluorescent colors shows how much this

460

00:21:10,670 --> 00:21:13,410
this tool has crossed
the blood-brain barrier.

461

00:21:13,410 --> 00:21:14,610
So in one strain of mice

462

00:21:14,610 --> 00:21:17,370
it works really well, in one
strain of mice it doesn't.

463

00:21:17,370 --> 00:21:19,340
So you can imagine the
challenge that we would run

464

00:21:19,340 --> 00:21:22,076
into is she developed this
for the first strain of mice

465

00:21:22,076 --> 00:21:23,314
and then tried to apply more broadly

466

00:21:23,314 --> 00:21:24,160
to the population.

467

00:21:24,160 --> 00:21:25,931

Which she then did, was she

468

00:21:25,931 --> 00:21:30,050

she went through a series
of additional viral tools.

469

00:21:30,050 --> 00:21:31,670

This is different versions of the tool,

470

00:21:31,670 --> 00:21:34,534

a PHPC, PHPC two, PHPC three,

471

00:21:34,534 --> 00:21:37,550

so a bunch of different
versions of the tools,

472

00:21:37,550 --> 00:21:39,720

and instead of just
testing them on one strain

473

00:21:39,720 --> 00:21:43,270

she tested them on the two
strains that were most different.

474

00:21:43,270 --> 00:21:45,260

And what though she
ultimately discovered was

475

00:21:45,260 --> 00:21:48,210

a specific tool in this
pre-clinical setting

476

00:21:48,210 --> 00:21:50,597

that worked across the most strains.

477

00:21:50,597 --> 00:21:53,070

And so that is the one

that she's taking forward

478

00:21:53,070 --> 00:21:54,490
because she's ensuring

479

00:21:54,490 --> 00:21:58,070
that she has what is essentially
the best line of symmetry

480

00:21:58,070 --> 00:22:01,152
as she's developing the tool,
not waiting 'til afterwards

481

00:22:01,152 --> 00:22:05,630
to test the tool more broadly
in different strains of mice.

482

00:22:05,630 --> 00:22:08,100
So why is this so important

483

00:22:08,100 --> 00:22:10,290
and why would I choose to lead off my talk

484

00:22:10,290 --> 00:22:13,760
around neuro ethics and genomic
architecture in this way?

485

00:22:13,760 --> 00:22:14,990
Well, as many of you all know,

486

00:22:14,990 --> 00:22:17,927
we are in the middle of the
Federal BRAIN Initiative.

487

00:22:17,927 --> 00:22:20,230
And the goal of this
initiative is ultimately

488

00:22:20,230 --> 00:22:22,970

to develop new tools and
technologies that will allow us

489

00:22:22,970 --> 00:22:25,710
to both understand how
the human brain works,

490

00:22:25,710 --> 00:22:27,070
but also to create a platform

491

00:22:27,070 --> 00:22:30,192
for treating devastating illnesses, things

492

00:22:30,192 --> 00:22:32,780
like depression and
Alzheimer's and drug addiction

493

00:22:32,780 --> 00:22:35,940
by creating these new
tools and new therapeutics.

494

00:22:35,940 --> 00:22:37,900
And so this is currently underway, funded

495

00:22:37,900 --> 00:22:42,130
to the tune of about \$4
billion launched in 2013.

496

00:22:42,130 --> 00:22:46,740
And so I want you to imagine
a world where we have tools,

497

00:22:46,740 --> 00:22:49,950
these viral tools that can
cross the blood brain barrier

498

00:22:49,950 --> 00:22:54,021
and deliver treatments to
certain types of brain cells.

499

00:22:54,021 --> 00:22:56,270

And then we think of all

500

00:22:56,270 --> 00:22:59,240

of this new tools and new
type of science being done,

501

00:22:59,240 --> 00:23:01,850

this is just an example, showing
you where they're showing

502

00:23:01,850 --> 00:23:04,980

that they can actually
target to target viruses

503

00:23:04,980 --> 00:23:06,695

to specific brain cells,

504

00:23:06,695 --> 00:23:08,220

and this works and pre-clinical models

505

00:23:08,220 --> 00:23:12,050

things like mice and in
humans and non-human primates.

506

00:23:12,050 --> 00:23:15,940

And so we can now develop
tools which will cross the

507

00:23:15,940 --> 00:23:18,180

blood brain barrier and target
different different cells.

508

00:23:18,180 --> 00:23:21,580

And we can show that we can
actually make a potential tool

509

00:23:21,580 --> 00:23:24,210

like this work in humans.

510

00:23:24,210 --> 00:23:26,500

So imagine that we're trying
to put these tools together,

511

00:23:26,500 --> 00:23:27,620

two things together.

512

00:23:27,620 --> 00:23:30,260

One, a tool that will
target specific brain cells

513

00:23:30,260 --> 00:23:33,480

and then an atlas, which
will give us the code

514

00:23:33,480 --> 00:23:35,580

for each of the cells that
we're trying to develop.

515

00:23:35,580 --> 00:23:37,260

And this is what we're doing
in the BRAIN Initiative,

516

00:23:37,260 --> 00:23:40,300

getting this at list
that tells us which cell

517

00:23:40,300 --> 00:23:42,370

what is the code for each individual cell

518

00:23:42,370 --> 00:23:45,430

that we should be turning on and off.

519

00:23:45,430 --> 00:23:50,230

And, and I'll, I'll, I'll,
I'll sort of frame this

520

00:23:50,230 --> 00:23:52,350

because I think this is particularly important.

521

00:23:52,350 --> 00:23:54,241

As I mentioned in the genomic architecture case,

522

00:23:54,241 --> 00:23:56,190

these large-scale patterns,

523

00:23:56,190 --> 00:23:58,574

so these tools that we're developing the identity

524

00:23:58,574 --> 00:24:02,960

of genes matter a lot when you think about ancestry.

525

00:24:02,960 --> 00:24:05,866

So like I said, with the poly genomic architecture,

526

00:24:05,866 --> 00:24:08,360

it worked in individuals of European ancestry,

527

00:24:08,360 --> 00:24:11,090

it didn't work so well in an individual of African ancestry.

528

00:24:11,090 --> 00:24:12,460

So a bunch of us had been thinking

529

00:24:12,460 --> 00:24:15,030

about as these new treatments are being developed

530

00:24:15,030 --> 00:24:18,060

we want to make sure that they work for individuals

531

00:24:18,060 --> 00:24:20,467
of African ancestry and
other ancestries as well.

532

00:24:20,467 --> 00:24:22,230
And we don't simply want
to wait till the end,

533

00:24:22,230 --> 00:24:24,680
we want to make sure that
this works in the beginning.

534

00:24:24,680 --> 00:24:26,353
So this is a team of individuals.

535

00:24:26,353 --> 00:24:30,540
We actually organized by
Dr. Reverend Al Hathaway.

536

00:24:30,540 --> 00:24:34,190
He's the pastor of the Union
Baptist church in Baltimore.

537

00:24:34,190 --> 00:24:38,150
And he, he made the point
that he wanted to ensure

538

00:24:38,150 --> 00:24:41,000
as these technologies were being developed

539

00:24:41,000 --> 00:24:43,970
that the African-American
community, particularly that

540

00:24:43,970 --> 00:24:47,490
in Baltimore and more broadly
wasn't left on the outskirts.

541

00:24:47,490 --> 00:24:48,817
He wanted to make sure that individuals

542
00:24:48,817 --> 00:24:51,720
in the community were participating
in the clinical trials.

543
00:24:51,720 --> 00:24:53,000
And that we were also thinking

544
00:24:53,000 --> 00:24:55,920
about the genomic
differences that might exist

545
00:24:55,920 --> 00:24:57,110
as we were coming up

546
00:24:57,110 --> 00:25:00,290
with these new treatments and,
and, and, and technologies.

547
00:25:00,290 --> 00:25:03,240
He was able to pull together
or with Eddie and Sylvia Brown

548
00:25:03,240 --> 00:25:05,270
who are entrepreneurs in Baltimore.

549
00:25:05,270 --> 00:25:06,890
And they funded the beginning

550
00:25:06,890 --> 00:25:08,560
of what we would call the African Ancestry

551
00:25:08,560 --> 00:25:10,440
Neuroscience Research Initiative,

552
00:25:10,440 --> 00:25:13,776
also partnered with the

provost Morgan State University

553

00:25:13,776 --> 00:25:15,967
to ensure there's an
educational component there.

554

00:25:15,967 --> 00:25:18,260
And the Lieber Institute,
which is a nonprofit

555

00:25:18,260 --> 00:25:21,890
a brain research institute
in Baltimore as well.

556

00:25:21,890 --> 00:25:24,150
And as, as this, as this

557

00:25:24,150 --> 00:25:26,140
this initiative was being launched,

558

00:25:26,140 --> 00:25:29,160
a bunch of people approached Dr. Hathaway

559

00:25:29,160 --> 00:25:31,240
and pointed out, you know
how African-Americans

560

00:25:31,240 --> 00:25:34,000
had been treated in the
biomedical research enterprise.

561

00:25:34,000 --> 00:25:35,895
And they also wanted to make the point

562

00:25:35,895 --> 00:25:36,783
that they didn't want to participate

563

00:25:36,783 --> 00:25:38,660
in a study that would actually show

564

00:25:38,660 --> 00:25:41,250
that black brains were worse.

565

00:25:41,250 --> 00:25:44,290
And so the community has
been involved in this

566

00:25:44,290 --> 00:25:47,090
since the beginning, the
communication piece has been there.

567

00:25:47,090 --> 00:25:49,610
And I'll just show you one
bit of preliminary data

568

00:25:49,610 --> 00:25:51,062
that's come out of this.

569

00:25:51,062 --> 00:25:52,860
And then I think you'll
understand how important

570

00:25:52,860 --> 00:25:54,540
an effort like this is.

571

00:25:54,540 --> 00:25:56,740
This is just looking
at human brain tissue.

572

00:25:56,740 --> 00:25:59,180
So the Lieber Institute
had about 700 brains

573

00:25:59,180 --> 00:26:00,320
of African ancestry.

574

00:26:00,320 --> 00:26:02,210
And then they just did an initial analysis

575

00:26:02,210 --> 00:26:03,710
of these human brains now,

576

00:26:03,710 --> 00:26:06,510
looking at gene expression
in different brain regions.

577

00:26:06,510 --> 00:26:10,220
Around the rim, you see
the different chromosomes.

578

00:26:10,220 --> 00:26:13,960
So, and then you see three brain areas.

579

00:26:13,960 --> 00:26:16,770
In the center, you can
see the hippocampus.

580

00:26:16,770 --> 00:26:17,630
And then in the middle

581

00:26:17,630 --> 00:26:20,960
you see an area, dorsal,
lateral, prefrontal cortex

582

00:26:20,960 --> 00:26:23,500
particularly implicated
in illness, and then

583

00:26:23,500 --> 00:26:24,710
around the rim striatum.

584

00:26:24,710 --> 00:26:26,290
And wherever you see a red dot

585

00:26:27,481 --> 00:26:29,910
that is a gene that has a
higher expression profile

586

00:26:29,910 --> 00:26:32,030
in the brains of African ancestry.

587

00:26:32,030 --> 00:26:34,340
And wherever you see a blue dot

588

00:26:34,340 --> 00:26:36,490
that is a gene that is higher expressed

589

00:26:36,490 --> 00:26:38,727
in individuals of European ancestry.

590

00:26:38,727 --> 00:26:41,680
And so the point here is that
if you look across the brain

591

00:26:41,680 --> 00:26:44,280
there are different
gene expression profiles

592

00:26:44,280 --> 00:26:45,980
that are related to the ancestries.

593

00:26:45,980 --> 00:26:49,023
So I'll pair this now with the work that

594

00:26:49,023 --> 00:26:53,660
that I showed you around
Viviana Gladinaru's work,

595

00:26:53,660 --> 00:26:57,260
you can appreciate now that if
you're using gene expression

596

00:26:57,260 --> 00:27:01,560
as almost a GPS system to
target cells in a disease case

597

00:27:01,560 --> 00:27:05,800
that if you do not generate
algorithms, that figure

598

00:27:05,800 --> 00:27:08,860
out how to find the points
of symmetry across ancestries

599

00:27:08,860 --> 00:27:12,020
you could have a tool
which activates an area

600

00:27:12,020 --> 00:27:14,640
that would be helpful, like
dorsolateral, prefrontal cortex

601

00:27:14,640 --> 00:27:17,420
in one ancestry, but then
activates another area

602

00:27:17,420 --> 00:27:20,290
like hippocampus that
might be really harmful

603

00:27:20,290 --> 00:27:22,240
across another ancestry, such

604

00:27:22,240 --> 00:27:24,350
as individuals of African ancestry.

605

00:27:24,350 --> 00:27:27,390
So I'll conclude this talk
just by putting up a picture.

606

00:27:27,390 --> 00:27:28,780
I've been reflecting on this

607

00:27:28,780 --> 00:27:30,477
with it being black history month.

608

00:27:30,477 --> 00:27:33,120

And, and I'll ask you just
to, to sit for a moment

609

00:27:33,120 --> 00:27:36,340

and think about what a slide
like this makes you feel.

610

00:27:36,340 --> 00:27:38,230

So what are you experiencing?

611

00:27:38,230 --> 00:27:40,470

Perhaps, it, it it gives you

612

00:27:40,470 --> 00:27:43,580

some sense of discomfort or anger.

613

00:27:43,580 --> 00:27:47,050

You think a lot about what
people have experienced

614

00:27:47,050 --> 00:27:50,600

through the history of this
country and the adversity,

615

00:27:50,600 --> 00:27:53,470

and even the central
theme today is about how

616

00:27:53,470 --> 00:27:56,974

we bring more equity to the
biomedical research enterprise.

617

00:27:56,974 --> 00:27:59,530

But when I see this picture

618

00:27:59,530 --> 00:28:03,380

what always stands out to

me is that I'm an engineer.

619

00:28:03,380 --> 00:28:06,750

And so I see what happens
when technology is

620

00:28:06,750 --> 00:28:10,241

selectively applied to one group of people

621

00:28:10,241 --> 00:28:14,240

while the other group of
individuals is left behind.

622

00:28:14,240 --> 00:28:16,040

And when I look at this picture

623

00:28:16,040 --> 00:28:18,420

what I ultimately see is this.

624

00:28:18,420 --> 00:28:21,960

And so my hope is, is
that as this initiative

625

00:28:21,960 --> 00:28:24,820

the BRAIN Initiative is being
developed to create a platform

626

00:28:24,820 --> 00:28:26,460

in which will become be coming up

627

00:28:26,460 --> 00:28:30,050

with new tools and devices
to treat human illness,

628

00:28:30,050 --> 00:28:33,400

particularly around
addiction, the basic studies

629

00:28:33,400 --> 00:28:35,500

and the platforms we're
using to increase humans

630

00:28:35,500 --> 00:28:37,050
and understand the architecture

631

00:28:37,975 --> 00:28:39,160
of gene expression in brain cell types

632

00:28:39,160 --> 00:28:40,700
will be sure to include individuals

633

00:28:40,700 --> 00:28:42,790
of African ancestry as well.

634

00:28:42,790 --> 00:28:45,490
So thank you so much for having me here.

635

00:28:48,812 --> 00:28:49,645
- Well, thanks, thanks very much.

636

00:28:49,645 --> 00:28:52,540
That was an amazing amazing talk going

637

00:28:52,540 --> 00:28:56,233
from symmetry of the letters
to the brain to the bathroom.

638

00:28:57,320 --> 00:29:00,850
I mean, in 10 minutes or 15
minutes, pretty didactic.

639

00:29:00,850 --> 00:29:03,246
I think it's really, really fantastic.

640

00:29:03,246 --> 00:29:05,877
So we don't have a lot
of time for questions.

641

00:29:05,877 --> 00:29:08,749

And so I'm going to move
directly to introduce

642

00:29:08,749 --> 00:29:11,610

our second speaker, which
is the Dr. Gene Brody.

643

00:29:11,610 --> 00:29:13,620

So Gene, whenever you're ready.

644

00:29:13,620 --> 00:29:15,030

Thanks for agreeing to be part

645

00:29:15,030 --> 00:29:18,200

of this fantastic meeting, take it away.

646

00:29:32,986 --> 00:29:34,919

– Dr. Zach Lynn and Blanco,

647

00:29:34,919 --> 00:29:36,250

thank you so much for involving me

648

00:29:36,250 --> 00:29:38,067

in this important meeting.

649

00:29:38,067 --> 00:29:42,880

I've learned so much from
all of the participants

650

00:29:42,880 --> 00:29:46,826

and it's given me a lot to think about.

651

00:29:46,826 --> 00:29:49,710

Today, in my own presentation,

652

00:29:49,710 --> 00:29:51,752

I'm hoping to raise awareness

653
00:29:51,752 --> 00:29:55,660
about the value of embedding biomarkers

654
00:29:55,660 --> 00:29:59,130
and longitudinal epidemiologic studies

655
00:29:59,130 --> 00:30:04,130
and prevention trials that
will enhance our understanding

656
00:30:04,370 --> 00:30:06,850
of the biological impacts

657
00:30:06,850 --> 00:30:11,502
of racism and other social injustices.

658
00:30:11,502 --> 00:30:16,502
All of the, all of the data
I'm going to report today

659
00:30:16,753 --> 00:30:19,962
were obtained from different samples

660
00:30:19,962 --> 00:30:24,119
from rural African-American families.

661
00:30:24,119 --> 00:30:29,119
They are representative
of families who live in

662
00:30:29,530 --> 00:30:31,840
what's known as the black belt,

663
00:30:31,840 --> 00:30:36,470
that area of our country that
starts with North Carolina

664

00:30:36,470 --> 00:30:41,470
South Carolina, travels from
Georgia, Mississippi, Alabama,

665
00:30:42,150 --> 00:30:46,203
Louisiana, and a little bit into Oklahoma.

666
00:30:46,203 --> 00:30:51,203
One of the characteristics
of this part of the

667
00:30:51,610 --> 00:30:54,940
of our country is that 35%

668
00:30:54,940 --> 00:30:59,320
of the nations poor
live here, and over 60%

669
00:30:59,320 --> 00:31:04,253
of the children raised
here, live at or in poverty.

670
00:31:05,570 --> 00:31:09,480
What, what, what's also
another characteristic

671
00:31:09,480 --> 00:31:11,670
of people who are raising children

672
00:31:11,670 --> 00:31:16,670
in this region is that they
are often largely invisible

673
00:31:16,856 --> 00:31:21,856
in their towns, in their
cities, in their states.

674
00:31:22,710 --> 00:31:26,963
And for the most part, they've
been invisible in science.

675

00:31:28,230 --> 00:31:29,793

Dave, next slide please.

676

00:31:34,277 --> 00:31:37,750

In this first study,
we're, we're going to look

677

00:31:37,750 --> 00:31:41,330

at a biomarker called allostatic load.

678

00:31:41,330 --> 00:31:46,330

And what we did is from 500 young adults,

679

00:31:49,250 --> 00:31:52,920

we collected overnight urine voids

680

00:31:52,920 --> 00:31:57,224

from which we assayed the stress hormones

681

00:31:57,224 --> 00:31:59,310

cortisol, epinephrin, norepinephrine.

682

00:31:59,310 --> 00:32:04,310

We drew blood to get a
biomarkers of inflammation.

683

00:32:05,000 --> 00:32:10,000

We obtained a blood
pressure, body mass index,

684

00:32:11,290 --> 00:32:13,643

and we aggregated those

685

00:32:13,643 --> 00:32:18,643

in a well-known way,
in a cumulative fashion

686

00:32:18,800 --> 00:32:23,800
and that defines allostatic
load, which forecasts all kinds

687
00:32:24,240 --> 00:32:27,340
of cardio-metabolic diseases, strokes,

688
00:32:27,340 --> 00:32:30,220
and cancer at midlife.

689
00:32:30,220 --> 00:32:34,750
And it all, it also
forecasts early mortality.

690
00:32:34,750 --> 00:32:36,200
So in, in this first

691
00:32:36,200 --> 00:32:39,740
what I consider just a
proof of principle study,

692
00:32:39,740 --> 00:32:44,180
we tested the hypothesis
that adolescents exposed

693
00:32:44,180 --> 00:32:48,154
to frequent encounters
with racial discrimination

694
00:32:48,154 --> 00:32:52,514
would forecast higher
levels of allostatic load.

695
00:32:52,514 --> 00:32:57,514
And we also tested a
second hypothesis known

696
00:32:57,580 --> 00:33:01,810
as the parent effects
hypothesis that's observed

697

00:33:01,810 --> 00:33:06,542
in animal models, wherein
positive caregiving tendencies

698

00:33:06,542 --> 00:33:11,542
exert lasting effects on offspring
physiology, in the brain,

699

00:33:15,721 --> 00:33:19,270
and the neuroendocrine
system, and the immune system.

700

00:33:19,270 --> 00:33:24,270
So what we did is across
ages 16 to 18, we developed

701

00:33:24,840 --> 00:33:29,840
and obtained lots of data on
encounters with discrimination.

702

00:33:30,730 --> 00:33:32,770
Through some statistical procedures,

703

00:33:32,770 --> 00:33:36,870
we were able to create two
groups of young people,

704

00:33:36,870 --> 00:33:41,870
those who were, who encountered
high and stable levels

705

00:33:42,760 --> 00:33:46,810
of racial discrimination, and
others who encountered low

706

00:33:46,810 --> 00:33:51,210
and increasing levels across
their adolescent years.

707

00:33:51,210 --> 00:33:55,550

And we also obtained across
ages 16 and 18, the kinds

708

00:33:55,550 --> 00:33:59,170

of emotional support that
these young people received

709

00:33:59,170 --> 00:34:03,493

from their parents based
on their parents' reports.

710

00:34:03,493 --> 00:34:06,280

So the figure shows that

711

00:34:06,280 --> 00:34:10,100

at age 20 young people who had frequent

712

00:34:10,100 --> 00:34:11,420

and stable encounters

713

00:34:11,420 --> 00:34:15,833

with racial discrimination across ages, 16

714

00:34:15,833 --> 00:34:20,833

to 18 showed higher levels
of allostatic load at age 20.

715

00:34:21,560 --> 00:34:26,100

And this association was not significant

716

00:34:26,100 --> 00:34:28,740

for young people who received high levels

717

00:34:28,740 --> 00:34:33,740

of emotional support from their
families during adolescence.

718

00:34:34,060 --> 00:34:36,560
So some there, there is support here for

719
00:34:36,560 --> 00:34:41,560
both the idea that exposure
to high and chronic levels

720
00:34:42,200 --> 00:34:45,630
of racial discrimination
does have some effects

721
00:34:45,630 --> 00:34:50,600
on dysregulating physiologic systems

722
00:34:50,600 --> 00:34:54,970
that poor cast later disease,
but not for everyone.

723
00:34:54,970 --> 00:34:56,830
And there's some support here

724
00:34:56,830 --> 00:34:59,950
or a strong support for the parent

725
00:34:59,950 --> 00:35:03,683
the parent effect hypothesis
seen in animal models.

726
00:35:04,593 --> 00:35:05,793
Dave, next slide please.

727
00:35:11,280 --> 00:35:14,690
In this next proof of principle study

728
00:35:14,690 --> 00:35:19,690
what I wanted to demonstrate
was how across two samples,

729
00:35:21,370 --> 00:35:24,610

exposure to high levels

730

00:35:24,610 --> 00:35:28,030
of racial discrimination
would be associated

731

00:35:28,030 --> 00:35:33,030
with forecast accelerated cellular aging.

732

00:35:33,710 --> 00:35:38,710
And we obtained a marker of
accelerated cellular aging

733

00:35:39,440 --> 00:35:43,120
from epigenetic analyses derive

734

00:35:43,120 --> 00:35:46,520
from whole gene genome assets.

735

00:35:46,520 --> 00:35:48,810
So in this first study,

736

00:35:48,810 --> 00:35:53,235
we had a sample of young
people who once again

737

00:35:53,235 --> 00:35:57,540
provided data on their encounters

738

00:35:57,540 --> 00:36:02,540
with racial discrimination
across ages 16 to 18 years.

739

00:36:04,498 --> 00:36:09,498
And we also obtained from
their parents, the amount

740

00:36:09,850 --> 00:36:14,850
of support that they received,

and the data was really clear

741

00:36:14,920 --> 00:36:19,612
and actually stronger than we expected.

742

00:36:19,612 --> 00:36:24,612
The highest levels of accelerated
cellular aging were found

743

00:36:24,930 --> 00:36:27,500
among young people who were exposed

744

00:36:27,500 --> 00:36:31,780
to high, unstable levels
of racial discrimination,

745

00:36:31,780 --> 00:36:34,579
but not for all of them, once again,

746

00:36:34,579 --> 00:36:37,640
some people, some of these young people

747

00:36:37,640 --> 00:36:40,950
who were exposed to high and stable levels

748

00:36:40,950 --> 00:36:44,029
of racial discrimination were shielded

749

00:36:44,029 --> 00:36:48,330
from the cellular effects

750

00:36:48,330 --> 00:36:52,456
of racial discrimination
because they were,

751

00:36:52,456 --> 00:36:57,456
they had access to supportive
caregiving relationships.

752

00:37:01,000 --> 00:37:02,493

Dave, next slide please.

753

00:37:05,020 --> 00:37:06,930

So we wanted to replicate this

754

00:37:06,930 --> 00:37:10,250

in another study and what you might notice

755

00:37:10,250 --> 00:37:14,600

at first blush is the
data looks so similar.

756

00:37:14,600 --> 00:37:17,670

So this is a second sample.

757

00:37:17,670 --> 00:37:22,670

The youth in this sample
were ages 17 to 19 years old.

758

00:37:23,320 --> 00:37:27,320

Once again, we obtained data this time

759

00:37:27,320 --> 00:37:32,232

at age 22 of accelerated cellular aging.

760

00:37:32,232 --> 00:37:35,570

And we also have pain data once again,

761

00:37:35,570 --> 00:37:39,390

from the parents of these young
people, across adolescence

762

00:37:39,390 --> 00:37:43,350

on their receipt of supportive caregiving

763

00:37:43,350 --> 00:37:46,870

and the results as you can see mirrored

764

00:37:46,870 --> 00:37:48,780
the first set of results

765

00:37:48,780 --> 00:37:53,770
with the highest levels of
accelerated cellular aging

766

00:37:53,770 --> 00:37:58,770
at age 22 were from young
people who received high

767

00:38:01,583 --> 00:38:04,540
and stable levels of discrimination

768

00:38:04,540 --> 00:38:09,540
and lower levels of emotional
support from their caregivers.

769

00:38:09,770 --> 00:38:14,770
The reason that we focused on
accelerated cellular aging is

770

00:38:15,940 --> 00:38:19,240
that like allostatic load

771

00:38:19,240 --> 00:38:24,240
it forecasts the chronic
diseases of aging later in life

772

00:38:24,350 --> 00:38:28,393
and it also forecasts early mortality.

773

00:38:29,637 --> 00:38:31,060
Next slide, Dave

774

00:38:36,150 --> 00:38:38,234
One of the things we do

775
00:38:38,234 --> 00:38:42,040
and in addition to studying the etiology

776
00:38:42,040 --> 00:38:47,040
of drug use and health
disparities is we use some

777
00:38:48,660 --> 00:38:50,420
of the information we collect

778
00:38:51,491 --> 00:38:53,389
in longitudinal epidemiologic studies

779
00:38:53,389 --> 00:38:58,389
as the fuel for the active ingredients

780
00:38:58,660 --> 00:39:01,470
and prevention programs that we develop

781
00:39:01,470 --> 00:39:04,140
for rural African-American families.

782
00:39:04,140 --> 00:39:07,490
And these programs are
developed in close collaboration

783
00:39:07,490 --> 00:39:10,710
with the rural African-American community.

784
00:39:10,710 --> 00:39:14,400
And we've been fortunate to develop three

785
00:39:14,400 --> 00:39:19,400
efficacious programs that were
designed to prevent the onset

786
00:39:20,850 --> 00:39:22,980
and escalation of drug use.

787

00:39:22,980 --> 00:39:25,670

The first program is the
Strong African-American

788

00:39:25,670 --> 00:39:29,290

Families Program for Pre-Adolescence.

789

00:39:29,290 --> 00:39:32,050

The second program is the
Strong African-American

790

00:39:32,050 --> 00:39:35,440

Teen Program for 15-year-old young people.

791

00:39:35,440 --> 00:39:39,000

And the third program is, the
Adults in the Making Program

792

00:39:39,000 --> 00:39:43,960

which is designed to offer some
protection for young people

793

00:39:43,960 --> 00:39:48,470

as they go out into a world
that has limited educational

794

00:39:48,470 --> 00:39:50,213

and occupational opportunities.

795

00:39:54,300 --> 00:39:58,890

We've embedded some biomarkers
in some of these programs

796

00:39:58,890 --> 00:40:00,660

and I'm going to share with you

797

00:40:00,660 --> 00:40:04,130

as the proof of principle analyses

798

00:40:04,130 --> 00:40:07,130

of things that other
people might think about

799

00:40:07,130 --> 00:40:12,130

in learning and using clinical
trials to inform the effects

800

00:40:13,500 --> 00:40:17,180

of racial discrimination
and other risk factors

801

00:40:17,180 --> 00:40:19,540

on the development of young people.

802

00:40:19,540 --> 00:40:20,643

Next slide, Dave.

803

00:40:22,860 --> 00:40:25,680

So then, this is a new study

804

00:40:28,879 --> 00:40:32,430

and I thought it was very Germain.

805

00:40:33,818 --> 00:40:37,890

In two of the prevention programs,

806

00:40:37,890 --> 00:40:41,970

the Strong African-American
Teen Program and AIM,

807

00:40:41,970 --> 00:40:46,970

we had baseline data on exposure
to racial discrimination.

808

00:40:48,030 --> 00:40:52,940

And what we wanted to find
out was could participation

809

00:40:52,940 --> 00:40:57,940
in a prevention program that
enhanced supportive caregiving

810

00:40:58,200 --> 00:41:02,000
ameliorate the effects
of racial discrimination

811

00:41:02,000 --> 00:41:07,000
on increases and symptoms
of mental health problems?

812

00:41:07,800 --> 00:41:12,800
So if you look at panels
A and panels B, you'll see

813

00:41:13,110 --> 00:41:18,110
that young people in both of
those trials who were exposed

814

00:41:18,430 --> 00:41:21,460
to high levels of discrimination,

815

00:41:21,460 --> 00:41:26,080
two years later showed
increases in conduct problems

816

00:41:26,080 --> 00:41:30,630
if they were assigned randomly
to the control conditions,

817

00:41:30,630 --> 00:41:33,720
but not to the pro,

818

00:41:33,720 --> 00:41:36,893
they didn't participate
in the prevention trials.

819

00:41:37,850 --> 00:41:41,818
If you look at panel C, which

820
00:41:41,818 --> 00:41:46,818
which focuses on depressive
and anxiety symptoms,

821
00:41:49,060 --> 00:41:53,410
you'll find that for
those participants in AIM

822
00:41:53,410 --> 00:41:56,657
who were 17 years old at baseline,

823
00:41:56,657 --> 00:42:00,730
those young people who
experienced high levels

824
00:42:00,730 --> 00:42:05,450
of racial discrimination at
baseline and participated

825
00:42:05,450 --> 00:42:09,470
in the control condition
events higher levels

826
00:42:09,470 --> 00:42:13,550
of depressive and anxiety symptoms

827
00:42:13,550 --> 00:42:17,140
across two years whereas
there was no differences

828
00:42:17,140 --> 00:42:18,993
between the other three groups.

829
00:42:19,886 --> 00:42:22,403
Dave, can I see the next slide please?

830

00:42:27,570 --> 00:42:32,570
In, in the, in, in the rural Southeast,

831
00:42:35,000 --> 00:42:39,300
as I mentioned earlier,
poverty is very prevalent.

832
00:42:39,300 --> 00:42:42,900
And in this analyses,
what we wanted to find

833
00:42:42,900 --> 00:42:47,744
out was would participation
in a prevention program

834
00:42:47,744 --> 00:42:52,744
the safe or Strong
African-American Families Program

835
00:42:52,900 --> 00:42:57,700
offer some protection
against growing up in poverty

836
00:42:57,700 --> 00:43:00,070
on neurodevelopment.

837
00:43:00,070 --> 00:43:03,680
And what we did is we simply
counted the number of years

838
00:43:03,680 --> 00:43:07,880
young people lived in poverty and looked

839
00:43:07,880 --> 00:43:11,780
at the volumes of the left amygdala

840
00:43:12,980 --> 00:43:17,750
and two areas of the
hippocampus to ascertain

841

00:43:17,750 --> 00:43:20,270

whether we could find
some protective effects

842

00:43:20,270 --> 00:43:23,530

of supportive caregiving,

843

00:43:23,530 --> 00:43:28,530

and the data depicted
in slide A, in panel A,

844

00:43:30,560 --> 00:43:35,560

clearly show that participating
in safe, did protect

845

00:43:39,357 --> 00:43:42,858

against declines associated
in amygdala volumes

846

00:43:42,858 --> 00:43:47,858

from living in poverty over
the course of adolescence,

847

00:43:49,060 --> 00:43:54,060

and similar findings were
replicated for hippocampal areas.

848

00:43:55,820 --> 00:43:58,800

So together these findings show

849

00:43:58,800 --> 00:44:03,800

that affects of prevention
programs that promote

850

00:44:07,470 --> 00:44:09,840

and enhance supportive caregiving

851

00:44:09,840 --> 00:44:14,840

having effects that are

detectable in the brain at age 25,

852

00:44:15,050 --> 00:44:19,900
after experiencing the
prevention program at age 11.

853

00:44:19,900 --> 00:44:23,890
And what I'd also like
to say is we have found

854

00:44:23,890 --> 00:44:28,037
similar effects on other biomarkers,

855

00:44:28,037 --> 00:44:31,330
eight and 14 years later.

856

00:44:31,330 --> 00:44:36,330
And those biomarkers
include stress hormones,

857

00:44:37,130 --> 00:44:42,130
norepinephrine, and epinephrine,
pro-inflammatory cytokines,

858

00:44:43,090 --> 00:44:47,120
cellular aging, and metabolic syndrome.

859

00:44:47,120 --> 00:44:49,130
So we think there is a lot

860

00:44:49,130 --> 00:44:54,130
of merit in embedding
biomarkers to start to get at

861

00:44:55,100 --> 00:44:59,970
what is it about racial discrimination

862

00:44:59,970 --> 00:45:04,970
and correlated variables

that have implications later

863

00:45:05,870 --> 00:45:10,270
in life and can be protected

864

00:45:10,270 --> 00:45:15,270
with participation in a
family centered prevention.

865

00:45:15,460 --> 00:45:16,660
And I want to finish

866

00:45:16,660 --> 00:45:20,120
by saying all of our
family centered prevention

867

00:45:20,120 --> 00:45:25,120
programs were designed to deter
drug use and risky behavior.

868

00:45:28,090 --> 00:45:31,510
And because they're one
of the central mechanisms

869

00:45:31,510 --> 00:45:34,430
in those programs was the enhancement

870

00:45:34,430 --> 00:45:36,330
of supportive caregiving,

871

00:45:36,330 --> 00:45:40,109
we've found effects on health outcomes

872

00:45:40,109 --> 00:45:44,000
that were unanticipated at the time

873

00:45:44,000 --> 00:45:46,180
we designed the programs.

874

00:45:46,180 --> 00:45:47,013

Thank you.

875

00:45:51,613 --> 00:45:52,446

– Okay, thanks, thanks very much

876

00:45:52,446 --> 00:45:56,700

Dr. Brody, that was also a fantastic talk.

877

00:45:56,700 --> 00:46:00,203

We are going to do now is
take a very short break

878

00:46:00,203 --> 00:46:02,140

until 2:00.

879

00:46:02,140 --> 00:46:04,000

And so we will reconvene at 2:00

880

00:46:04,000 --> 00:46:05,910

to start the panel discussion.

881

00:46:05,910 --> 00:46:08,430

So we will have a few minutes,

882

00:46:08,430 --> 00:46:10,043

but we will start shop at 2:00.

883

00:46:11,070 --> 00:46:12,223

All right, thanks.

884

00:46:14,117 --> 00:46:15,320

– For integration of race

885

00:46:15,320 --> 00:46:17,180

in the basic science research to better

886

00:46:17,180 --> 00:46:19,110
understand health disparities.

887
00:46:19,110 --> 00:46:20,500
This session will be moderated

888
00:46:20,500 --> 00:46:22,646
by Holly Moore, Program Officer

889
00:46:22,646 --> 00:46:25,619
from the Division of
Neuroscience and Behavior.

890
00:46:25,619 --> 00:46:27,540
Thank you, Holly.

891
00:46:27,540 --> 00:46:31,036
- Thank you, Will, and
first, thanks again.

892
00:46:31,036 --> 00:46:34,540
I'll echo the thanks to the
meeting organizers, Will

893
00:46:34,540 --> 00:46:39,540
and Carlos, for such a really,
really different meeting.

894
00:46:39,650 --> 00:46:42,208
It's been wonderful to
listen to everything so far.

895
00:46:42,208 --> 00:46:46,370
As we jump into discussion, I
will remind attendees that you

896
00:46:46,370 --> 00:46:49,410
can use the Q and A
function to submit questions

897

00:46:49,410 --> 00:46:52,600
or comments to participate
in the discussion.

898

00:46:52,600 --> 00:46:55,180
I think on behalf of the
panelists for this session

899

00:46:55,180 --> 00:46:56,590
are the headlining panelists,

900

00:46:56,590 --> 00:46:59,140
I want to invite panelists
from the other sessions

901

00:46:59,140 --> 00:47:02,120
to feel free, to contribute, jump in.

902

00:47:02,120 --> 00:47:05,680
You might use your Zoom
hand raisy thing to jump in,

903

00:47:05,680 --> 00:47:08,810
but if I miss it, just go
ahead and feel free to jump in.

904

00:47:08,810 --> 00:47:11,220
And I'll start out.

905

00:47:11,220 --> 00:47:14,145
I'll introduce our
panelists as they jump in

906

00:47:14,145 --> 00:47:17,100
and I'll start out with just introducing

907

00:47:17,100 --> 00:47:19,500
the A priority questions
we had for the session.

908

00:47:20,710 --> 00:47:24,100

The first question was how and why should basic scientists

909

00:47:24,100 --> 00:47:26,060

incorporate race into their studies?

910

00:47:26,060 --> 00:47:28,240

Another question was what research designs

911

00:47:28,240 --> 00:47:30,530

and methods are appropriate for addressing

912

00:47:30,530 --> 00:47:33,696

Questions about race and racial inequities in health?

913

00:47:33,696 --> 00:47:36,550

What are the implications for recruitment

914

00:47:36,550 --> 00:47:38,150

and community engagement with regard

915

00:47:38,150 --> 00:47:40,300

to people who might participate in research?

916

00:47:40,300 --> 00:47:43,550

And what steps or considerations would should,

917

00:47:43,550 --> 00:47:45,601

should we take to support

918

00:47:45,601 --> 00:47:49,210

or address limitations in data interpretation when

919
00:47:49,210 --> 00:47:51,100
trying to make our research relevant

920
00:47:51,100 --> 00:47:54,150
to health disparities, social determinants

921
00:47:54,150 --> 00:47:57,020
and basically addressing
health inequities in general?

922
00:47:57,020 --> 00:48:00,610
So Raul Gonzalez from Florida
International University

923
00:48:00,610 --> 00:48:03,368
offered to break the
ice and jump right in.

924
00:48:03,368 --> 00:48:08,190
Raul is a Professor of Psychiatry.

925
00:48:08,190 --> 00:48:09,836
I have you here, sorry.

926
00:48:09,836 --> 00:48:11,560
Of Psychiatry, Psychology

927
00:48:11,560 --> 00:48:14,090
and Immunology at Florida
International University.

928
00:48:14,090 --> 00:48:18,780
He heads the Substance Use
and HIV Neuropsychology Lab.

929
00:48:18,780 --> 00:48:21,400
He comes from a clinical
neuro-psychology background

930

00:48:21,400 --> 00:48:24,637
and his research is aimed at
how neurocognitive differences

931

00:48:24,637 --> 00:48:28,630
across the lifespan may impact risk

932

00:48:28,630 --> 00:48:31,990
for substance use disorder and
other behavioral disorders.

933

00:48:31,990 --> 00:48:33,270
So Raul, why don't you jump

934

00:48:33,270 --> 00:48:35,960
in with your response
to the first question.

935

00:48:35,960 --> 00:48:37,480
– Thank you, Holly.

936

00:48:37,480 --> 00:48:39,417
Definitely want to thank you
for, for organizing all this.

937

00:48:39,417 --> 00:48:42,350
And I, I have a lot of
gratitude to express

938

00:48:42,350 --> 00:48:44,383
to all of the speakers from yesterday.

939

00:48:44,383 --> 00:48:48,770
I've learned so much and
feel incredibly privileged

940

00:48:48,770 --> 00:48:50,650
and grateful to be a part of this session.

941

00:48:50,650 --> 00:48:54,720

So the question is why
should basic scientists

942

00:48:54,720 --> 00:48:56,880

incorporate race into their studies?

943

00:48:56,880 --> 00:48:59,560

And this is a question that
I've been grappling with.

944

00:48:59,560 --> 00:49:01,960

If the question that folks on my team

945

00:49:01,960 --> 00:49:03,480

have been grappling with.

946

00:49:03,480 --> 00:49:07,270

One of my hats is I'm a
site principal investigator

947

00:49:07,270 --> 00:49:09,740

for the Adolescent Brain
Cognitive Development Study

948

00:49:09,740 --> 00:49:11,630

which is a, for those of
you who don't know a very

949

00:49:11,630 --> 00:49:15,078

large study following around
12,000 youth, starting

950

00:49:15,078 --> 00:49:20,078

at age nine to 10, until
age 20, it is a steady

951

00:49:20,370 --> 00:49:22,800

with a lot of variables

that are being looked at it.

952

00:49:22,800 --> 00:49:25,360

It has a very strong
neural imaging component.

953

00:49:25,360 --> 00:49:28,390

It has genetics, it has
neurocognitive functioning,

954

00:49:28,390 --> 00:49:31,363

and so many other social
variables tied to that.

955

00:49:31,363 --> 00:49:34,010

One of the things that I was asked was to

956

00:49:34,010 --> 00:49:35,490

give a little brief introduction to myself

957

00:49:35,490 --> 00:49:38,081

which I think is going to segue directly

958

00:49:38,081 --> 00:49:39,130

into part of answering this question.

959

00:49:39,130 --> 00:49:41,270

In addition to being a
clinical neuropsychologist who

960

00:49:41,270 --> 00:49:45,981

doesn't typically work in this
space, I'm also an immigrant.

961

00:49:45,981 --> 00:49:48,150

I was born in Cuba.

962

00:49:48,150 --> 00:49:50,160

Technically. I think

that makes me a refugee

963

00:49:50,160 --> 00:49:51,390

instead of of an immigrant.

964

00:49:51,390 --> 00:49:53,673

When my family came here

I was five years old.

965

00:49:53,673 --> 00:49:55,590

As I was growing up,

966

00:49:55,590 --> 00:49:57,930

my parents would tell me

that my race was Cuban.

967

00:49:57,930 --> 00:50:00,198

And by the time that I

got old enough to check

968

00:50:00,198 --> 00:50:03,640

off check boxes on forms,

by the time I was five,

969

00:50:03,640 --> 00:50:06,370

I learned that I was actually Hispanic.

970

00:50:06,370 --> 00:50:09,930

And then when I moved to San

Diego for graduate school

971

00:50:09,930 --> 00:50:12,520

I found out that I was actually Latino.

972

00:50:12,520 --> 00:50:14,130

And then about a decade ago

973

00:50:14,130 --> 00:50:16,720

I learned that I was actually Latinx,

974

00:50:16,720 --> 00:50:20,580
and very recently I've learned
that I'm actually BIPOC.

975

00:50:20,580 --> 00:50:24,150
And my 23 and Me Ancestry suggests

976

00:50:24,150 --> 00:50:29,150
that my ancestry is, you know,
all sorts of other things.

977

00:50:29,620 --> 00:50:32,100
My wife was born in
the Dominican Republic.

978

00:50:32,100 --> 00:50:34,610
Her stepfather was also
born in the islands.

979

00:50:34,610 --> 00:50:36,636
He was one of the Dominican Republic

980

00:50:36,636 --> 00:50:37,850
but grew up in Trinidad.

981

00:50:37,850 --> 00:50:40,360
In Trinidad, his race was Dominican.

982

00:50:40,360 --> 00:50:43,520
And when he moved to the
United States, he became black.

983

00:50:43,520 --> 00:50:45,500
And several of his children born

984

00:50:45,500 --> 00:50:47,340
in the United States have grown up

985

00:50:47,340 --> 00:50:49,720
and identify as black.

986

00:50:49,720 --> 00:50:52,610
When my wife moved to the U.S. at age 16,

987

00:50:52,610 --> 00:50:55,720
she hated checking off those check boxes.

988

00:50:55,720 --> 00:50:58,670
I was already pretty much
acculturated into the boxes

989

00:50:58,670 --> 00:50:59,823
by that point in time.

990

00:51:01,157 --> 00:51:01,990
When she was given an option,

991

00:51:01,990 --> 00:51:02,920
she would always look for other

992

00:51:02,920 --> 00:51:06,917
and she would check off
other and write in Dominican.

993

00:51:06,917 --> 00:51:09,930
By that point, I was then shocked.

994

00:51:09,930 --> 00:51:11,530
I was like, Sarah, do you know

995

00:51:11,530 --> 00:51:13,330
that you're causing a
data analyst somewhere

996

00:51:13,330 --> 00:51:14,790
a tremendous amount of grief by checking

997

00:51:14,790 --> 00:51:18,372

off these open check boxes
and writing stuff in?

998

00:51:18,372 --> 00:51:21,130

But that, that did not dissuade her.

999

00:51:21,130 --> 00:51:23,130

Our daughter was born in Chicago

1000

00:51:23,130 --> 00:51:26,330

and we moved to Miami when
she was starting preschool.

1001

00:51:26,330 --> 00:51:27,640

And in preschool they had

1002

00:51:27,640 --> 00:51:29,670

during the first year an activity
about where are you from?

1003

00:51:29,670 --> 00:51:31,100

What's your heritage culture?

1004

00:51:31,100 --> 00:51:32,800

She came home and asked us

1005

00:51:32,800 --> 00:51:34,310

and we explained to her what it meant.

1006

00:51:34,310 --> 00:51:37,050

And she said, she says, okay,
she processed all of this.

1007

00:51:37,050 --> 00:51:38,280

And she said, I'm Chicagoan.

1008

00:51:38,280 --> 00:51:43,280
And so her whole presentation
at school was around

1009
00:51:43,739 --> 00:51:46,090
Chicago-related stuff because
that's how she identified.

1010
00:51:46,090 --> 00:51:50,670
And her own identity is also
developing along the way.

1011
00:51:50,670 --> 00:51:55,670
So race is a socially
constructed imprecise, flawed,

1012
00:51:56,220 --> 00:51:57,610
and fluid construct.

1013
00:51:57,610 --> 00:51:59,340
It's inextricably tied

1014
00:51:59,340 --> 00:52:03,400
to a social, cultural,
and geographical context.

1015
00:52:03,400 --> 00:52:05,850
So how does it help us
to better understand

1016
00:52:05,850 --> 00:52:07,800
the human condition?

1017
00:52:07,800 --> 00:52:11,170
Should basic scientists incorporate
race into their studies?

1018
00:52:11,170 --> 00:52:12,960
A 1992 JAMA article,

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00:52:12,960 --> 00:52:15,050

so we're going back, you
know, a couple of decades

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00:52:15,050 --> 00:52:17,900

by Osborne and Fate invoked
the Hippocratic oath

1021

00:52:17,900 --> 00:52:20,790

and said do no harm in publishing studies

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00:52:20,790 --> 00:52:22,710

of racial differences.

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00:52:22,710 --> 00:52:24,190

Write about race in a way

1024

00:52:24,190 --> 00:52:26,650

that does not perpetuate racism.

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00:52:26,650 --> 00:52:29,130

In 1999, the Human
Genome Project concluded

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00:52:29,130 --> 00:52:30,680

that there's no evidence for race

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00:52:30,680 --> 00:52:34,320

as a biological variable
in the genetic code.

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00:52:34,320 --> 00:52:37,070

Another JAMA article in 2003, by Kaplan

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00:52:37,070 --> 00:52:39,390

and Bennett provided guidelines
for the responsible use

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00:52:39,390 --> 00:52:42,320
of race and ethnicity in
biomedical publications.

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00:52:42,320 --> 00:52:43,260
And they implored

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00:52:43,260 --> 00:52:45,560
that there should always
be a thoughtful reason

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00:52:45,560 --> 00:52:47,830
for the use of race in any study,

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00:52:47,830 --> 00:52:48,980
that they should not be used

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00:52:48,980 --> 00:52:50,863
as proxies for genetic variation,

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00:52:50,863 --> 00:52:53,620
and that your interpretation

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00:52:53,620 --> 00:52:56,850
of any sort of race
results, all conceptually

1038
00:52:56,850 --> 00:52:59,848
relevant factors should be considered.

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00:52:59,848 --> 00:53:02,620
Yesterday, we heard from Dr. Hansen,

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00:53:02,620 --> 00:53:05,810
very powerfully and very
clearly identifying race

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00:53:05,810 --> 00:53:08,920
as a hierarchical taxonomy

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00:53:08,920 --> 00:53:12,370

that is part of our master narrative,

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00:53:12,370 --> 00:53:13,640

a master narrative in this country

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00:53:13,640 --> 00:53:16,270

that is clearly harmful to many people.

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00:53:16,270 --> 00:53:19,160

We heard Dr. Ferholdien

articulate that there's no reason

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00:53:19,160 --> 00:53:21,264

for race to explain

differences and addiction

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00:53:21,264 --> 00:53:25,780

but plenty of reasons, that

implicate discrimination,

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00:53:25,780 --> 00:53:28,916

racism, and social determinants.

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00:53:28,916 --> 00:53:33,420

In my own process of learning

more about this area in space,

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00:53:33,420 --> 00:53:35,640

you know, we've I've

focused so much like so many

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00:53:35,640 --> 00:53:39,020

of us do on the very narrow work that is

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00:53:39,020 --> 00:53:41,159

at the core of, of what we do

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00:53:41,159 --> 00:53:44,180
and sometimes ignoring folks

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00:53:44,180 --> 00:53:46,330
in other areas, like anthropology,

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00:53:46,330 --> 00:53:48,030
who've been grappling with these questions

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00:53:48,030 --> 00:53:49,710
for a very long time.

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00:53:49,710 --> 00:53:51,435
So there's very long answer.

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00:53:51,435 --> 00:53:52,480
I'm gonna wrap up with quoting

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00:53:52,480 --> 00:53:53,740
from an article that was published

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00:53:53,740 --> 00:53:57,680
in 2005, in American Psychologists,
by Smedley and Smedley.

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00:53:57,680 --> 00:54:01,060
And I think the title of it
really sums it up completely.

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00:54:01,060 --> 00:54:04,267
The title is, "Race as Biology is Fiction,

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00:54:04,267 --> 00:54:07,470
"Racism as a Social Problem is Real."

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00:54:07,470 --> 00:54:09,850
And I encourage everybody to read that.

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00:54:09,850 --> 00:54:12,417

So this is a direct
quote from this article.

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00:54:12,417 --> 00:54:14,747

"From its inception, race was a folk idea,

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00:54:14,747 --> 00:54:17,167

"a culturally invented conception
about human differences.

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00:54:17,167 --> 00:54:19,877

"It became an important
mechanism for limiting

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00:54:19,877 --> 00:54:23,447

"and restricting access to
privilege, power, and wealth.

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00:54:23,447 --> 00:54:25,947

"The ideology arose as a rationalization

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00:54:25,947 --> 00:54:28,877

"and justification for
human slavery at a time

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00:54:28,877 --> 00:54:32,027

"when Western European societies
were embracing philosophies

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00:54:32,027 --> 00:54:34,097

"promoting individual and human rights,

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00:54:34,097 --> 00:54:37,777

"liberty, democracy, justice,
brotherhood, and equality.

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00:54:37,777 --> 00:54:40,327

"The idea of race distorts, exaggerates,

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00:54:40,327 --> 00:54:42,387

"and maximizes human difference.

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00:54:42,387 --> 00:54:44,077

"It's the most extreme form

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00:54:44,077 --> 00:54:45,837

"of difference that humans can assert

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00:54:45,837 --> 00:54:47,947

"about another human being or group

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00:54:47,947 --> 00:54:50,377

"as one of its components is the belief

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00:54:50,377 --> 00:54:54,075

"that differences are permanent
and cannot be overcome."

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00:54:54,075 --> 00:54:56,350

This article goes on
to say that racialized

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00:54:56,350 --> 00:54:58,850

science with its emphasis
on identifying immutable

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00:54:58,850 --> 00:55:01,140

differences between racial
groups can be expected

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00:55:01,140 --> 00:55:04,960

only to maintain and reinforce
existing racial inequality.

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00:55:04,960 --> 00:55:07,020

And that it's adherence and directly argue

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00:55:07,020 --> 00:55:08,820
that no degree of government intervention

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00:55:08,820 --> 00:55:11,090
or social change will alter the skills

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00:55:11,090 --> 00:55:13,570
and abilities of different racial groups.

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00:55:13,570 --> 00:55:16,070
Yet policy makers cannot
ignore the fact that

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00:55:16,070 --> 00:55:18,670
social race remains a
significant predictor of

1092
00:55:18,670 --> 00:55:20,760
which groups have access
to societal goods and

1093
00:55:20,760 --> 00:55:23,750
resources in which groups face barriers,

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00:55:23,750 --> 00:55:27,040
both historically and in
the contemporary context,

1095
00:55:27,040 --> 00:55:28,240
so full inclusion.

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00:55:28,240 --> 00:55:30,400
The fact of inequality renders race

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00:55:30,400 --> 00:55:32,700
and important social policy concern.

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00:55:32,700 --> 00:55:36,388

So to the basic sciences incorporate race

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00:55:36,388 --> 00:55:37,472
into their studies.

1100

00:55:37,472 --> 00:55:39,210
I don't have any great
insights or answers,

1101

00:55:39,210 --> 00:55:42,127
it's it's complicated,
but the more I think on it

1102

00:55:42,127 --> 00:55:44,180
the more it becomes obvious
to me that it's time

1103

00:55:44,180 --> 00:55:47,253
to move on and we have to do better.

1104

00:55:48,320 --> 00:55:49,436
- Thank you, Raul.

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00:55:49,436 --> 00:55:52,230
Next, I'll introduce Natalie Slopin,

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00:55:52,230 --> 00:55:54,610
she's a Social Epidemiologist
from the University

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00:55:54,610 --> 00:55:57,500
of Maryland whose work
focuses on social influences

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00:55:57,500 --> 00:56:00,730
on health and health
disparities and psychological

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00:56:00,730 --> 00:56:03,060

and biological mechanisms
through which childhood

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00:56:03,060 --> 00:56:06,668
experiences can impact
health risk for disease.

1111

00:56:06,668 --> 00:56:10,400
And Natalie, would you want
to jump in just to respond

1112

00:56:10,400 --> 00:56:13,836
to Raul, or actually address
any of the other questions?

1113

00:56:13,836 --> 00:56:18,836
- Sure, yes, I will plan to
build on Raul's first thoughts,

1114

00:56:20,940 --> 00:56:21,990
sticking with this question

1115

00:56:21,990 --> 00:56:24,200
of why should basic scientists incorporate

1116

00:56:24,200 --> 00:56:25,330
race into their studies?

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00:56:25,330 --> 00:56:27,930
And the answer that I had
come up with, you know

1118

00:56:27,930 --> 00:56:29,420
with these prompt questions

1119

00:56:29,420 --> 00:56:31,505
in advance of tells really nicely from

1120

00:56:31,505 --> 00:56:34,230

from where you left off
in your conversations.

1121
00:56:34,230 --> 00:56:37,970
So from my perspective,
as a social epidemiologist

1122
00:56:37,970 --> 00:56:40,430
I would argue that it
would be very helpful

1123
00:56:40,430 --> 00:56:43,120
for us to be reframing the question to ask

1124
00:56:43,120 --> 00:56:45,764
why should basic scientists
incorporate experiences

1125
00:56:45,764 --> 00:56:48,700
or features of the environment associated

1126
00:56:48,700 --> 00:56:50,760
with racism into their studies?

1127
00:56:50,760 --> 00:56:55,480
And so, as you cited study
after study, you know, we do not

1128
00:56:55,480 --> 00:56:58,620
there's not evidence for
biological or genetic differences

1129
00:56:58,620 --> 00:57:00,927
between these groupings
that we so often use

1130
00:57:00,927 --> 00:57:04,035
in the United States
for race and ethnicity.

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00:57:04,035 --> 00:57:07,190

So we need to ensure that our studies are designed to focus

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00:57:07,190 --> 00:57:11,290

on systems and structures and experiences that differ

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00:57:11,290 --> 00:57:13,780

between these groups based on the social

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00:57:13,780 --> 00:57:16,980

and environmental characteristics, factors related

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00:57:16,980 --> 00:57:18,930

to well educational quality,

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00:57:18,930 --> 00:57:21,760

access to healthcare, air quality, et cetera.

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00:57:21,760 --> 00:57:25,670

So that we have this broad representation

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00:57:25,670 --> 00:57:28,420

of the factors that we truly believe are

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00:57:28,420 --> 00:57:31,610

driving the health disparities that we observe.

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00:57:31,610 --> 00:57:34,640

And so while these categories of race

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00:57:34,640 --> 00:57:38,280

and ethnicity are fraught with problems and imperfections

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00:57:38,280 --> 00:57:39,930
they still are important.

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00:57:39,930 --> 00:57:44,930
As a tool, they're the best we
have at the moment to monitor

1144
00:57:45,015 --> 00:57:49,330
and use these socially
constructed categories

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00:57:49,330 --> 00:57:52,520
to ensure that we're moving towards equity

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00:57:52,520 --> 00:57:56,080
and closing gaps in health that do exist.

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00:57:56,080 --> 00:57:58,620
And so we, you know, are

1148
00:57:58,620 --> 00:58:00,670
at a point in time where I would argue

1149
00:58:00,670 --> 00:58:04,090
we want to continue to include assessments

1150
00:58:04,090 --> 00:58:07,670
of aspects of the environment
that are associated

1151
00:58:07,670 --> 00:58:10,830
with race and ethnicity
and ensure representation

1152
00:58:10,830 --> 00:58:13,170
of those check boxes that you referred

1153
00:58:13,170 --> 00:58:17,210

to in your talk to make
it so that our studies

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00:58:17,210 --> 00:58:20,240
are incorporating the
populations that, that we need.

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00:58:20,240 --> 00:58:22,260
And that this is going
to be really important

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00:58:22,260 --> 00:58:23,590
for developing policies

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00:58:23,590 --> 00:58:26,520
and interventions to effectively
address health equity

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00:58:27,693 --> 00:58:28,958
and improve population health.

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00:58:28,958 --> 00:58:33,958
- And lastly, I'll just
reintroduce Kaf Dzirasa from Duke,

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00:58:34,870 --> 00:58:38,139
as you saw the cool research
that he does and thinks about,

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00:58:38,139 --> 00:58:41,980
he uses different genetic
tools to manipulate

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00:58:41,980 --> 00:58:43,350
psychiatric risk genes

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00:58:43,350 --> 00:58:46,950
in mainly mouse models
or, or rodent models.

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00:58:46,950 --> 00:58:48,210
And then use this really cool ways

1165
00:58:48,210 --> 00:58:51,190
of manipulating circuits
to figure out what those

1166
00:58:51,190 --> 00:58:52,447
what the functions of those genes might be

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00:58:52,447 --> 00:58:55,020
and how that might play out
in a psychiatric disorder.

1168
00:58:55,020 --> 00:58:59,250
And, and Kaf has also been at
the forefront of discussions

1169
00:58:59,250 --> 00:59:03,410
about race and ethnicity
with regard to inclusion

1170
00:59:03,410 --> 00:59:07,810
as you saw today, also how
to actually improve race

1171
00:59:07,810 --> 00:59:10,512
and race diversity in the
work, the scientific workforce.

1172
00:59:10,512 --> 00:59:13,750
And also things like that
actually are not unrelated

1173
00:59:13,750 --> 00:59:16,670
like data dissemination,
tool dissemination, things

1174
00:59:16,670 --> 00:59:19,970

where we want to think
about how base there's a

1175

00:59:19,970 --> 00:59:22,670
there's a gulf actually,
between basic science

1176

00:59:22,670 --> 00:59:25,480
and how it actually
does, or does not help,

1177

00:59:25,480 --> 00:59:29,300
the kind of science that
actually has real impact

1178

00:59:29,300 --> 00:59:32,320
on delivery of of health care to people.

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00:59:32,320 --> 00:59:34,810
And he's part of that
conversation as well.

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00:59:34,810 --> 00:59:36,522
So Kaf, can we get your,

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00:59:36,522 --> 00:59:39,570
some your thoughts on
what you've heard so far?

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00:59:39,570 --> 00:59:41,560
- Yeah, I mean, I'll sort of follow

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00:59:41,560 --> 00:59:46,520
up with both of my colleagues
and, and I will agree

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00:59:46,520 --> 00:59:49,275
that certainly race is not
a biological construct, but

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00:59:49,275 --> 00:59:53,330
but I'm both a neuroscientist
and psychiatrist.

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00:59:53,330 --> 00:59:55,590
And so I certainly appreciate

1187
00:59:55,590 --> 00:59:58,930
that external environmental
variables are certainly

1188
00:59:58,930 --> 01:00:02,942
manifested in how our brain
matures and shapes itself,

1189
01:00:02,942 --> 01:00:06,090
and which genes are chooses to turn on

1190
01:00:06,090 --> 01:00:08,592
and off in a way that is
undoubtedly behavioral

1191
01:00:08,592 --> 01:00:10,470
and behaviorally relevant.

1192
01:00:10,470 --> 01:00:13,890
So, so while, while I will, 100% agree

1193
01:00:13,890 --> 01:00:18,890
that race is not a biological
construct, it certainly is,

1194
01:00:19,840 --> 01:00:24,590
and I'll say presumed
race, is a social construct

1195
01:00:24,590 --> 01:00:28,811
in through which society
mediates environmental effects

1196

01:00:28,811 --> 01:00:33,060
that certainly have a lasting
impact on brain function.

1197

01:00:33,060 --> 01:00:37,840
And I can certainly say as a
black male, I can experience

1198

01:00:37,840 --> 01:00:41,347
I can certainly say that like
racism is stressful y'all.

1199

01:00:41,347 --> 01:00:46,347
This last year has been
an incredibly on top

1200

01:00:47,530 --> 01:00:51,090
of everything else from watching
the disproportionate depths

1201

01:00:51,090 --> 01:00:54,350
of COVID-19 to much of what
we've experienced more broadly

1202

01:00:54,350 --> 01:00:59,059
in society in academia, like
the effects that racism has

1203

01:00:59,059 --> 01:01:02,850
and how that is mediated
undoubtedly is it's stressful.

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01:01:02,850 --> 01:01:05,320
And undoubtedly it has an effect

1205

01:01:05,320 --> 01:01:08,460
on the biology of the organ in my head,

1206

01:01:08,460 --> 01:01:09,370
no doubt about it.

1207
01:01:09,370 --> 01:01:11,780
So I do think there are ways
that we need to be thinking

1208
01:01:11,780 --> 01:01:14,373
about these clear environmental effects.

1209
01:01:14,373 --> 01:01:17,809
Both the one could appreciate
as a basic scientist,

1210
01:01:17,809 --> 01:01:21,460
but one can appreciate this
as a psychiatrist as well

1211
01:01:21,460 --> 01:01:23,330
and figure out how to shape some

1212
01:01:23,330 --> 01:01:25,300
of the communication around
these studies being done.

1213
01:01:25,300 --> 01:01:27,956
I had mentioned some of the
work we're doing in Baltimore

1214
01:01:27,956 --> 01:01:30,540
and one of the things you can
appreciate in Baltimore is

1215
01:01:30,540 --> 01:01:33,500
as you sort of like move
from block to block,

1216
01:01:33,500 --> 01:01:35,273
like the life expectancy is

1217
01:01:35,273 --> 01:01:38,680
like 20 years different from
block to block to block.

1218
01:01:38,680 --> 01:01:42,100
And there's no doubt that
that is certainly reflected

1219
01:01:42,100 --> 01:01:45,539
in the, what we'll say,
presumed racial demographics

1220
01:01:45,539 --> 01:01:48,860
that exists from block to block to block.

1221
01:01:48,860 --> 01:01:50,890
And so there's there's no doubt

1222
01:01:50,890 --> 01:01:52,500
that there's a link there.

1223
01:01:52,500 --> 01:01:54,840
Now, I mean, I would argue fairly

1224
01:01:54,840 --> 01:01:59,590
I think to say that the
causal mediator is redlining.

1225
01:01:59,590 --> 01:02:01,511
In other words, there's a history

1226
01:02:01,511 --> 01:02:02,810
of separating people by race.

1227
01:02:02,810 --> 01:02:05,670
And there are things that
are more likely to show

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01:02:05,670 --> 01:02:07,910
up in some of the homes than
others, like lead paint,

1229
01:02:07,910 --> 01:02:10,440
which certainly has developmental
impacts on the brain,

1230
01:02:10,440 --> 01:02:12,760
which certainly shapes health outcomes,

1231
01:02:12,760 --> 01:02:16,240
and that is undoubtedly
associated with presumed race.

1232
01:02:16,240 --> 01:02:18,530
But that is the selection that is used to

1233
01:02:18,530 --> 01:02:21,480
mediate those racist affects.

1234
01:02:21,480 --> 01:02:24,368
So I, I think in order to begin

1235
01:02:24,368 --> 01:02:26,090
to untangling that we have to begin to

1236
01:02:26,090 --> 01:02:28,730
to dig into directly what the structure

1237
01:02:28,730 --> 01:02:31,790
of power is and what
racism was used to do.

1238
01:02:31,790 --> 01:02:33,960
It's why when we're building
this African-American

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01:02:33,960 --> 01:02:35,400

Neuroscience Research Initiative,

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01:02:35,400 --> 01:02:38,120

the first thing was to
build the community, right?

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01:02:38,120 --> 01:02:39,580

And it was the, the

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01:02:39,580 --> 01:02:42,330

the first pillar has to be the community,

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01:02:42,330 --> 01:02:45,630

it has to be, Reverend Hal Hathaway,

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01:02:45,630 --> 01:02:48,500

that I showed his
picture, because, you know

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01:02:48,500 --> 01:02:51,090

he was talking to folks and
he's like, look, we, we have

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01:02:51,090 --> 01:02:53,380

we have brains already.

1247

01:02:53,380 --> 01:02:54,470

But before we engage

1248

01:02:54,470 --> 01:02:56,810

in doing neuroscience and
brains of African ancestry,

1249

01:02:56,810 --> 01:02:57,673

what are your concerns in the community?

1250

01:02:57,673 --> 01:03:00,360

He's like, look, there's a long history

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01:03:00,360 --> 01:03:01,570
in which people have been arguing

1252

01:03:01,570 --> 01:03:03,716
that black people aren't as smart from

1253

01:03:03,716 --> 01:03:05,010
for phrenology to everything else.

1254

01:03:05,010 --> 01:03:06,650
And how are we going to, to

1255

01:03:06,650 --> 01:03:08,620
to participate in an
initiative that brings

1256

01:03:08,620 --> 01:03:10,400
about the outcomes that
we're interested in,

1257

01:03:10,400 --> 01:03:12,810
but doesn't create additional evidence

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01:03:12,810 --> 01:03:16,250
for people to say, see, we
told you, there's evidence now

1259

01:03:16,250 --> 01:03:17,830
that there's differences
of functional groups.

1260

01:03:17,830 --> 01:03:19,123
So we think about the communication

1261

01:03:19,123 --> 01:03:21,200
and the community involvement upfront.

1262

01:03:21,200 --> 01:03:24,480

There's a clear neuroscience
motivation for this

1263

01:03:24,480 --> 01:03:25,760
as, as I pointed out.

1264

01:03:25,760 --> 01:03:27,330
If I'm taking genes and putting into mice

1265

01:03:27,330 --> 01:03:28,800
and doing basic science research,

1266

01:03:28,800 --> 01:03:30,480
I want to make sure we're
picking the gene patterns

1267

01:03:30,480 --> 01:03:32,960
that are gonna extrapolate to
the broadest number of humans

1268

01:03:32,960 --> 01:03:35,940
not just those of
European ancestry, but in

1269

01:03:35,940 --> 01:03:38,540
in order to even begin to
do the basic science work,

1270

01:03:38,540 --> 01:03:40,200
I'm not agnostic to the fact

1271

01:03:40,200 --> 01:03:41,930
that the work I do in a mouse is relevant

1272

01:03:41,930 --> 01:03:44,010
to humans and humans need
to be involved in shaping

1273

01:03:44,010 --> 01:03:45,370

that enterprise more broadly.

1274

01:03:45,370 --> 01:03:49,350
Not simply because, and I'll
end my soap box shortly,

1275

01:03:49,350 --> 01:03:51,416
not simply because, you know

1276

01:03:51,416 --> 01:03:53,380
we live in a democracy
in our health enterprise

1277

01:03:53,380 --> 01:03:55,520
is funded by our population at large,

1278

01:03:55,520 --> 01:03:56,580
therefore, they have to be bought

1279

01:03:56,580 --> 01:03:59,520
into the science and
it has to benefit them,

1280

01:03:59,520 --> 01:04:01,400
but because, you know, we

1281

01:04:01,400 --> 01:04:03,510
as scientists certainly
should appreciate that,

1282

01:04:03,510 --> 01:04:06,420
you know, we're not the
simple and only stakeholders

1283

01:04:06,420 --> 01:04:09,810
and beneficiaries of the
wonderful institution that is NIH.

1284

01:04:09,810 --> 01:04:12,120

So there's an obligation
for us to make sure

1285

01:04:12,120 --> 01:04:13,320
that as we're discovering things,

1286

01:04:13,320 --> 01:04:15,970
if we have two set of choices,
one is a scientific paper

1287

01:04:15,970 --> 01:04:17,127
and the other is a scientific paper,

1288

01:04:17,127 --> 01:04:19,270
and the maximum benefit for the community

1289

01:04:19,270 --> 01:04:21,890
that we're thinking about
how to do the latter.

1290

01:04:21,890 --> 01:04:24,320
I don't, I don't always
think it's a choice community

1291

01:04:24,320 --> 01:04:25,750
or scientific progress.

1292

01:04:25,750 --> 01:04:27,846
We can certainly make choices that deliver

1293

01:04:27,846 --> 01:04:28,973
on the science as well.

1294

01:04:28,973 --> 01:04:29,977
So thank you so much.

1295

01:04:29,977 --> 01:04:32,020
And I'm excited to
participate in this panel.

1296

01:04:32,020 --> 01:04:33,410

- Thanks to all three of you.

1297

01:04:33,410 --> 01:04:38,410

Well, I mean, one thing I'm
hearing is that first of all

1298

01:04:38,560 --> 01:04:40,300

those boxes that Raul talked about,

1299

01:04:40,300 --> 01:04:41,400

the boxes that are checked

1300

01:04:41,400 --> 01:04:44,460

with regard to race and ethnicity are they

1301

01:04:44,460 --> 01:04:46,480

they don't have a scientific history.

1302

01:04:46,480 --> 01:04:48,520

They weren't, they weren't
know, they weren't generated

1303

01:04:48,520 --> 01:04:50,320

with any scientific evidence behind them.

1304

01:04:50,320 --> 01:04:52,300

They're not just imperfect.

1305

01:04:52,300 --> 01:04:55,600

They're actually, yeah, they're

1306

01:04:55,600 --> 01:04:57,290

they're actually a part of a proxy

1307

01:04:57,290 --> 01:05:00,644

for a system that we really

don't want to perpetuate.

1308

01:05:00,644 --> 01:05:04,110

And it's going to take some time

1309

01:05:04,110 --> 01:05:05,610

for us to change the conversation

1310

01:05:05,610 --> 01:05:09,780

about what race means with
regard to, how to do research.

1311

01:05:09,780 --> 01:05:10,930

And one of the things I think

1312

01:05:10,930 --> 01:05:15,460

about when we talk about
genetics, for example,

1313

01:05:15,460 --> 01:05:18,570

is that probably the, the, the study

1314

01:05:18,570 --> 01:05:22,090

of the effect of racism on
genetics and how people have

1315

01:05:22,090 --> 01:05:24,380

and how people have been changed by racism

1316

01:05:24,380 --> 01:05:27,530

over across generations is
more scientifically valid

1317

01:05:27,530 --> 01:05:31,630

than the topic of the, of
racial differences in genetics.

1318

01:05:31,630 --> 01:05:34,114

And in with regard to race,

1319

01:05:34,114 --> 01:05:38,220

having a phrase that's an
alternative or a different phrase

1320

01:05:38,220 --> 01:05:41,640

or basically not using the
phrase, race differences,

1321

01:05:41,640 --> 01:05:44,970

but rather talking about
the different stressors

1322

01:05:45,876 --> 01:05:47,730

and the different challenges
faced by different people

1323

01:05:47,730 --> 01:05:49,900

on the basis of what others think

1324

01:05:49,900 --> 01:05:53,060

of them as other things of their grouping.

1325

01:05:53,060 --> 01:05:54,610

So it's going to take a lot

1326

01:05:54,610 --> 01:05:58,060

of conversation to kind of
tell each other what we mean

1327

01:05:58,060 --> 01:05:59,240

by the construct of race

1328

01:05:59,240 --> 01:06:01,397

and, and that's something
that's going to take some time,

1329

01:06:01,397 --> 01:06:05,110

and we might talk about that a bit more.

1330

01:06:05,110 --> 01:06:07,160

The, the other thing I'm in

1331

01:06:07,160 --> 01:06:08,850

I'm also going to sort
of like go with some

1332

01:06:08,850 --> 01:06:10,400

some things that people are contributing

1333

01:06:10,400 --> 01:06:13,050

on the Q and A, and
contributed before the meeting.

1334

01:06:13,050 --> 01:06:17,480

And one of those is
relating to research design.

1335

01:06:17,480 --> 01:06:19,040

So given that we have this conundrum,

1336

01:06:19,040 --> 01:06:22,170

given that when we say,
well, we want, we need more

1337

01:06:22,170 --> 01:06:24,210

we need different racial and
ethnic groups in research,

1338

01:06:24,210 --> 01:06:26,668

yet we know that that
construct is imperfect,

1339

01:06:26,668 --> 01:06:28,680

how are we going to do that

1340

01:06:28,680 --> 01:06:31,230

in a way that we remain sort of fluid

1341

01:06:31,230 --> 01:06:35,080

so we can change and
improve the construct such

1342

01:06:35,080 --> 01:06:37,570

that we're just including
everyone that needs to be included

1343

01:06:37,570 --> 01:06:40,217

in health research and we're
eliminating health inequities,

1344

01:06:40,217 --> 01:06:42,219

how do we eliminate health inequities,

1345

01:06:42,219 --> 01:06:43,810

but in the meantime

1346

01:06:43,810 --> 01:06:45,980

we still have to use
these constructs to go

1347

01:06:45,980 --> 01:06:49,503

out and reach populations
that have been underserved?

1348

01:06:49,503 --> 01:06:51,823

Maybe Natalie, Bart?

1349

01:06:53,930 --> 01:06:57,468

- Sure, so I think
that's a great question.

1350

01:06:57,468 --> 01:07:00,730

And in my view, I think it's
really important to be thinking

1351

01:07:00,730 --> 01:07:03,990

about characteristics
related to our sampling,

1352

01:07:03,990 --> 01:07:07,090
the measures we use, and as
well as the study design.

1353

01:07:07,090 --> 01:07:11,230
So first thinking about the
sample I'll make four points.

1354

01:07:11,230 --> 01:07:13,840
So I would say first,
it's important to think

1355

01:07:13,840 --> 01:07:18,550
or to design our studies too,
for some of them to be focused

1356

01:07:18,550 --> 01:07:20,910
across racial and ethnic
groups and some to

1357

01:07:20,910 --> 01:07:24,550
take an in-depth look
within a particular groups

1358

01:07:24,550 --> 01:07:27,320
ensuring that we have heterogeneity

1359

01:07:27,320 --> 01:07:29,530
across these important
social constructs that we

1360

01:07:29,530 --> 01:07:31,750
believe are really important to help.

1361

01:07:31,750 --> 01:07:33,390
There's a lot to be learned

1362
01:07:33,390 --> 01:07:35,550
from both these cross-group comparisons

1363
01:07:35,550 --> 01:07:38,997
and in depth studies of single groups.

1364
01:07:38,997 --> 01:07:42,490
And it's really important
to avoid systematic biases

1365
01:07:42,490 --> 01:07:45,659
in the way that we sample, which
can have major implications

1366
01:07:45,659 --> 01:07:48,910
for the generalized
ability of what we find.

1367
01:07:48,910 --> 01:07:53,440
We also want related to
this point is we must ensure

1368
01:07:53,440 --> 01:07:56,810
that we have variation in
the socioeconomic position

1369
01:07:56,810 --> 01:07:59,840
within groups so that we can
make meaningful comparisons.

1370
01:07:59,840 --> 01:08:03,460
It's very common for our
cohort studies, perhaps

1371
01:08:03,460 --> 01:08:06,740
to not do as good of a job
as this, which would be ideal

1372
01:08:06,740 --> 01:08:09,000

and then we ended up with
a lot of confounding.

1373

01:08:09,000 --> 01:08:12,500

There were maybe missed
attributing differences

1374

01:08:12,500 --> 01:08:16,110

or we can explain racial variations

1375

01:08:16,110 --> 01:08:19,130

in certain outcomes when we could have

1376

01:08:19,130 --> 01:08:23,001

should we have had more
representative or more

1377

01:08:23,001 --> 01:08:25,940

heterogeneous samples where
we could more accurately

1378

01:08:25,940 --> 01:08:28,337

characterize the range
of social environments

1379

01:08:28,337 --> 01:08:30,733

and and capture what's driving health.

1380

01:08:30,733 --> 01:08:34,370

I also want to make the
point related to samples that

1381

01:08:34,370 --> 01:08:36,740

in the United States,
there are certain groups

1382

01:08:36,740 --> 01:08:39,717

that are basically
systematically not studied

1383
01:08:39,717 --> 01:08:43,580
or perhaps in our national
surveillance data,

1384
01:08:43,580 --> 01:08:45,590
this data is being suppressed

1385
01:08:45,590 --> 01:08:48,490
and not released within
the public release files,

1386
01:08:48,490 --> 01:08:52,847
because these groups are
small in size and, you know

1387
01:08:54,520 --> 01:08:56,660
it may be a privacy issue

1388
01:08:56,660 --> 01:08:58,820
of why they may not be
disclosed, but because of this

1389
01:08:58,820 --> 01:09:01,950
we were lacking a really
important information

1390
01:09:01,950 --> 01:09:04,920
for understanding disparities that exist.

1391
01:09:04,920 --> 01:09:08,300
Related to this, we have large groups

1392
01:09:08,300 --> 01:09:13,100
that we may have available
to analyze such as well

1393
01:09:13,100 --> 01:09:15,030
not even large, but we know for example

1394

01:09:15,030 --> 01:09:18,930
that our U.S. data often groups
together Asian Americans,

1395

01:09:18,930 --> 01:09:21,731
and this is an extremely
heterogeneous group

1396

01:09:21,731 --> 01:09:23,900
that can be hard to interpret based

1397

01:09:23,900 --> 01:09:27,930
on the distinct social experiences

1398

01:09:27,930 --> 01:09:30,900
for people who are
arriving in that category

1399

01:09:30,900 --> 01:09:33,260
within a data file that
we may be working with.

1400

01:09:33,260 --> 01:09:36,210
So data dis-aggregation
is really important

1401

01:09:36,210 --> 01:09:38,200
for exposing gaps in health equity

1402

01:09:38,200 --> 01:09:40,130
and something that we should be keeping

1403

01:09:40,130 --> 01:09:42,610
in mind as we develop our,
our sampling approaches

1404

01:09:42,610 --> 01:09:45,340
and continue to move
forward with the agenda.

1405
01:09:45,340 --> 01:09:47,630
And then finally, related to sampling,

1406
01:09:47,630 --> 01:09:49,970
there's been increased importance

1407
01:09:49,970 --> 01:09:54,420
of capturing notions related
to intersectionality.

1408
01:09:54,420 --> 01:09:57,160
So, you know, the experience

1409
01:09:57,160 --> 01:10:00,360
of individuals with multiple
marginalized identities

1410
01:10:00,360 --> 01:10:02,080
within the way that we are

1411
01:10:02,080 --> 01:10:05,780
are modeling our health
outcomes and disparities

1412
01:10:05,780 --> 01:10:09,808
because we know that outcomes
can differ dramatically based

1413
01:10:09,808 --> 01:10:14,808
on different combinations
of stigmatized attributes

1414
01:10:14,863 --> 01:10:16,246
by our society.

1415
01:10:16,246 --> 01:10:18,284
Related to measurements,

1416
01:10:18,284 --> 01:10:21,710
we know from social science
literature, that when

1417
01:10:21,710 --> 01:10:25,260
stressors are measured
comprehensively, we do a much

1418
01:10:25,260 --> 01:10:30,260
better job accounting for
racial and ethnic variations

1419
01:10:30,330 --> 01:10:31,810
in health and health disparities.

1420
01:10:31,810 --> 01:10:35,630
And so there are stressors that are common

1421
01:10:35,630 --> 01:10:39,470
across all individuals in society.

1422
01:10:39,470 --> 01:10:42,359
And then there are certain
types of stressors that are much

1423
01:10:42,359 --> 01:10:47,359
more likely to occur among
individuals of certain racial

1424
01:10:48,710 --> 01:10:51,450
and ethnic groups, such as
blacks and Hispanics that

1425
01:10:51,450 --> 01:10:55,350
may pertain to both interpersonal
and institutionalized

1426
01:10:55,350 --> 01:10:57,040
forms of racism.

1427

01:10:57,040 --> 01:10:59,190

And so we need to be
thinking about the assessment

1428

01:10:59,190 --> 01:11:04,190

of stressors, very comprehensively
in our, in our work.

1429

01:11:04,370 --> 01:11:09,370

And then finally, I, and not
only comprehensively, but

1430

01:11:09,480 --> 01:11:10,590

at multiple levels.

1431

01:11:10,590 --> 01:11:13,280

And then finally from
a design perspective,

1432

01:11:13,280 --> 01:11:14,180

I want to make the point

1433

01:11:14,180 --> 01:11:16,690

that a life course approach
is extremely important.

1434

01:11:16,690 --> 01:11:18,610

So we know that both risks

1435

01:11:18,610 --> 01:11:21,120

and resources accumulate over time

1436

01:11:21,120 --> 01:11:24,279

and that needs matter for health
and substance use outcomes.

1437

01:11:24,279 --> 01:11:26,890

So there's increasing attention recently

1438
01:11:26,890 --> 01:11:29,420
to considering adversity in childhood

1439
01:11:29,420 --> 01:11:32,010
in relation to substance use, particularly

1440
01:11:32,010 --> 01:11:36,730
among black and Latino
youth, and this appreciation

1441
01:11:36,730 --> 01:11:40,000
of life force and trauma
are really important

1442
01:11:40,000 --> 01:11:41,450
both to our epidemiologic studies

1443
01:11:41,450 --> 01:11:43,970
and also for the development of effective

1444
01:11:43,970 --> 01:11:46,193
and trauma informed interventions.

1445
01:11:48,440 --> 01:11:49,273
– Thank you.

1446
01:11:49,273 --> 01:11:51,040
Anyone else want to jump in on that?

1447
01:11:53,480 --> 01:11:55,260
One thing I'll interject real quickly

1448
01:11:55,260 --> 01:11:57,530
before you, so I'm going
to retract that round,

1449
01:11:57,530 --> 01:12:00,330

but jump at, no, I'll
just to say that one thing

1450
01:12:00,330 --> 01:12:02,450
that I want to highlight
or reinforce that,

1451
01:12:02,450 --> 01:12:04,800
that Natalie said was the importance

1452
01:12:04,800 --> 01:12:09,030
of recognizing heterogeneity
within a group that's

1453
01:12:09,030 --> 01:12:11,860
identified on the basis of,
again, this false construct

1454
01:12:11,860 --> 01:12:15,000
of race and ethnicity, but
there's, there's, we have to be

1455
01:12:15,000 --> 01:12:17,300
have to actually include the heterogeneity

1456
01:12:17,300 --> 01:12:18,650
within those groups

1457
01:12:18,650 --> 01:12:21,080
if we're going to actually
get a full picture

1458
01:12:21,080 --> 01:12:23,410
of how health inequities arise

1459
01:12:23,410 --> 01:12:24,910
and how we're going to address them.

1460
01:12:24,910 --> 01:12:27,263

So go ahead, Raul, sorry I interrupted.

1461

01:12:28,430 --> 01:12:29,263

- Sure.

1462

01:12:30,520 --> 01:12:32,090

There's a couple of
things that have been said

1463

01:12:32,090 --> 01:12:34,260

that I want to jump on.

1464

01:12:34,260 --> 01:12:37,250

Dr. Dzirasa's talk was fantastic.

1465

01:12:37,250 --> 01:12:40,450

I think there were several
very key points that were

1466

01:12:40,450 --> 01:12:43,930

were driven home that,
that resonated with me.

1467

01:12:43,930 --> 01:12:45,900

One is the, the importance

1468

01:12:45,900 --> 01:12:49,730

of having that broad
representation of people in

1469

01:12:49,730 --> 01:12:51,630

in a human subject study.

1470

01:12:51,630 --> 01:12:54,770

And then Dr. Slopin has also
talked about this importance of

1471

01:12:54,770 --> 01:12:59,060

of having that within group variation.

1472

01:12:59,060 --> 01:13:02,390

So with ABCD, which is a
study that's taking place

1473

01:13:02,390 --> 01:13:05,080

across 21 sites, the original goal

1474

01:13:05,080 --> 01:13:07,360

of the study was to have
a representative sample

1475

01:13:07,360 --> 01:13:09,240

and using sampling techniques so

1476

01:13:09,240 --> 01:13:11,290

that we can match the U.S. Census,

1477

01:13:11,290 --> 01:13:14,420

and maybe it'd be over sample some groups,

1478

01:13:14,420 --> 01:13:17,840

but boy is sure is hard
and expensive to do that.

1479

01:13:17,840 --> 01:13:20,163

And it sure is hard and
expensive to do that

1480

01:13:20,163 --> 01:13:22,560

with a large enough sample size.

1481

01:13:22,560 --> 01:13:24,420

And at the end of the day,

1482

01:13:24,420 --> 01:13:28,550

I got to say, the efforts were Herculean.

1483

01:13:28,550 --> 01:13:29,770
We didn't quite get there.

1484
01:13:29,770 --> 01:13:32,373
We, at first we did not
have enough individuals

1485
01:13:32,373 --> 01:13:37,373
of black folks in the
study and NIDA stepped up.

1486
01:13:38,440 --> 01:13:41,040
More money was given to
increase recruitment efforts.

1487
01:13:41,040 --> 01:13:43,286
So this is part of the,
the equity process of

1488
01:13:43,286 --> 01:13:48,140
maybe it takes a little more
to get to that representation.

1489
01:13:48,140 --> 01:13:53,100
But then we couldn't find enough whites

1490
01:13:53,100 --> 01:13:56,820
with low education that wanted
to participate in research.

1491
01:13:56,820 --> 01:14:00,637
And then we missed out on
some of those folks as well.

1492
01:14:00,637 --> 01:14:02,260
And then as has been pointed out,

1493
01:14:02,260 --> 01:14:04,220
so what do we use if we're not using race,

1494

01:14:04,220 --> 01:14:06,900

which is a nice lazy measure
to try to get a bunch

1495

01:14:06,900 --> 01:14:08,700

of this stuff in, it still falls short.

1496

01:14:08,700 --> 01:14:11,600

At the end of the day,
we want to look income,

1497

01:14:11,600 --> 01:14:13,990

we want to look at environmental toxins

1498

01:14:13,990 --> 01:14:16,520

and environmental exposures,
quality of education.

1499

01:14:16,520 --> 01:14:17,790

I mean, the list goes on and on,

1500

01:14:17,790 --> 01:14:20,470

discrimination, racism that's experienced,

1501

01:14:20,470 --> 01:14:21,303

stress, all of this.

1502

01:14:21,303 --> 01:14:25,450

Again, the price tag keeps
growing and growing and growing

1503

01:14:25,450 --> 01:14:29,831

in terms of the feasibility
of doing some of this right.

1504

01:14:29,831 --> 01:14:32,180

So the, there needs to be a lot

1505

01:14:32,180 --> 01:14:35,210
of resources pumped in
for us to do this right

1506
01:14:35,210 --> 01:14:37,490
and there also needs to be some

1507
01:14:37,490 --> 01:14:39,020
some sort of gatekeeper effect.

1508
01:14:39,020 --> 01:14:40,350
One of the things that we're struggling

1509
01:14:40,350 --> 01:14:43,403
with with ABCD is it's
an open science study.

1510
01:14:43,403 --> 01:14:46,926
So we are collecting data
on all of these variables,

1511
01:14:46,926 --> 01:14:48,220
but what's to keep somebody

1512
01:14:48,220 --> 01:14:50,057
from using these
variables in a racist way?

1513
01:14:50,057 --> 01:14:54,698
Or to continue to perpetuate
the master narrative

1514
01:14:54,698 --> 01:14:56,540
using the data that we're collecting

1515
01:14:56,540 --> 01:14:58,220
with such great intentions?

1516
01:14:58,220 --> 01:15:03,170

So I was humbled and
shocked when I was going

1517
01:15:03,170 --> 01:15:04,580
through the literature
of looking to see how

1518
01:15:04,580 --> 01:15:06,640
other folks have dealt with these issues.

1519
01:15:06,640 --> 01:15:09,020
To read papers that were
written three decades ago

1520
01:15:09,020 --> 01:15:11,750
on how to responsibly use data on race

1521
01:15:11,750 --> 01:15:13,710
and seeing how little that that's trickled

1522
01:15:13,710 --> 01:15:18,200
into the work that my
colleagues and I and to do.

1523
01:15:18,200 --> 01:15:19,771
So what do we need?

1524
01:15:19,771 --> 01:15:20,920
Do we need journal editors to

1525
01:15:20,920 --> 01:15:24,360
start putting very clear
rules on how this works?

1526
01:15:24,360 --> 01:15:26,980
ABCD has a lot of great folks working

1527
01:15:26,980 --> 01:15:30,450
in it that are putting a lot of thought in

1528
01:15:30,450 --> 01:15:32,490
into these very questions.

1529
01:15:32,490 --> 01:15:34,850
There's talk about putting
a language in the data

1530
01:15:34,850 --> 01:15:37,008
use agreements for ABCD

1531
01:15:37,008 --> 01:15:38,780
and I hope that this comes to fruition

1532
01:15:38,780 --> 01:15:41,570
about explicitly not using race

1533
01:15:41,570 --> 01:15:45,330
as a biological variable
and for sorting people out

1534
01:15:45,330 --> 01:15:48,170
or for making kind of racist conclusions

1535
01:15:48,170 --> 01:15:51,150
of this group's brain is
bigger than this brain.

1536
01:15:51,150 --> 01:15:53,310
And look at how it's
impacting us negatively.

1537
01:15:53,310 --> 01:15:54,990
Dr. Dzirasa brought the point home.

1538
01:15:54,990 --> 01:15:56,430
What were people scared of?

1539

01:15:56,430 --> 01:15:59,066
People didn't want to
participate in our research

1540
01:15:59,066 --> 01:16:01,660
because they're afraid
it's going to get turned

1541
01:16:01,660 --> 01:16:06,660
around to continue perpetuating
these harmful ideologies.

1542
01:16:08,140 --> 01:16:10,420
So it seems that there needs to be racism,

1543
01:16:10,420 --> 01:16:13,110
there needs to be some
sort of gatekeeper control

1544
01:16:13,110 --> 01:16:15,970
about how this data can be
used and within ABCD and all

1545
01:16:15,970 --> 01:16:18,660
a lot of folks have been
talking about preparing

1546
01:16:18,660 --> 01:16:21,700
like a rapid response team
when a paper gets published

1547
01:16:21,700 --> 01:16:25,630
with ABCD data that
misuses this type of data

1548
01:16:25,630 --> 01:16:30,430
to shoot back commentaries
on how the data was misused.

1549
01:16:30,430 --> 01:16:32,390

So, yeah, I don't think
we have any answers,

1550

01:16:32,390 --> 01:16:34,380
but it requires a lot of support.

1551

01:16:34,380 --> 01:16:36,690
It requires support from, from leadership.

1552

01:16:36,690 --> 01:16:39,990
It requires support
all the way up to NIDA,

1553

01:16:39,990 --> 01:16:42,820
and this, this workshop
that's been happening

1554

01:16:42,820 --> 01:16:45,280
over these two days goes a long way.

1555

01:16:45,280 --> 01:16:47,310
And we were talking earlier in the chat

1556

01:16:47,310 --> 01:16:48,960
about how so many folks feel

1557

01:16:48,960 --> 01:16:52,200
that just these couple of
days are required viewing for

1558

01:16:52,200 --> 01:16:55,503
for a lot of folks and doing
the type of work that we do.

1559

01:16:58,090 --> 01:17:00,040
- Kaf, could you want to contribute there?

1560

01:17:00,040 --> 01:17:01,800
- Yes, yeah, certainly.

1561

01:17:01,800 --> 01:17:05,010

I'll start off by saying I
think it's really important,

1562

01:17:05,010 --> 01:17:07,002

and this is a lot of the importance

1563

01:17:07,002 --> 01:17:07,835

of the biological framing,

1564

01:17:07,835 --> 01:17:10,380

is to point out that
ancestry matter, right?

1565

01:17:10,380 --> 01:17:13,620

So I don't use the word
race, the term race

1566

01:17:13,620 --> 01:17:15,610

in that matter, but I do use
the term ancestry, right?

1567

01:17:15,610 --> 01:17:18,370

So ancestry is certainly
how our genes have moved

1568

01:17:18,370 --> 01:17:20,230

across environments over time.

1569

01:17:20,230 --> 01:17:22,610

And, you know, as a basic
scientist, I can appreciate this.

1570

01:17:22,610 --> 01:17:24,650

I'm not allowed to call a mouse a mouse

1571

01:17:24,650 --> 01:17:27,460

unless I back crossed it

tens generations, right?

1572

01:17:27,460 --> 01:17:29,840

So certainly there's a lot of relevance

1573

01:17:29,840 --> 01:17:31,770

in terms of how our biology interacts

1574

01:17:31,770 --> 01:17:34,610

with the environment that
is linked to our ancestry,

1575

01:17:34,610 --> 01:17:39,240

and our move to think of everyone the same

1576

01:17:39,240 --> 01:17:41,920

which is important, should not be lost

1577

01:17:41,920 --> 01:17:43,736

as we're developing a
precision medicine initiative

1578

01:17:43,736 --> 01:17:47,580

which says that every single
biological organism, which we

1579

01:17:47,580 --> 01:17:50,620

as human beings are, every
single one, is actually different

1580

01:17:50,620 --> 01:17:52,800

in a way that might be
meaningful for help.

1581

01:17:52,800 --> 01:17:56,700

So I I think it's important to
always keep a five post there

1582

01:17:56,700 --> 01:17:59,720

that we are trying to understand
individual architecture

1583

01:17:59,720 --> 01:18:01,410
in a way that's relevant
for treating disease

1584

01:18:01,410 --> 01:18:03,820
and B individuals
shouldn't be lost in that.

1585

01:18:03,820 --> 01:18:04,680
At the same token,

1586

01:18:04,680 --> 01:18:08,650
I'll say, you know, certainly
I, I appreciate that a lot

1587

01:18:08,650 --> 01:18:11,420
of movement has to happen
from where we are now

1588

01:18:11,420 --> 01:18:13,120
to where we're ultimately trying to get.

1589

01:18:13,120 --> 01:18:17,510
And it's going to require a
lot of investment as well.

1590

01:18:17,510 --> 01:18:19,750
But I do think there are things
that we could do immediately

1591

01:18:19,750 --> 01:18:21,010
and there's small and subtle shifts,

1592

01:18:21,010 --> 01:18:23,080
but they're likely they, you could imagine

1593

01:18:23,080 --> 01:18:25,180
that there would have a
huge impact on the field.

1594
01:18:25,180 --> 01:18:27,330
So I was doing a thought experiment

1595
01:18:27,330 --> 01:18:31,390
as I was sitting here and
a great, a great friend

1596
01:18:31,390 --> 01:18:34,930
of mine recently, who is
a radiation oncologist.

1597
01:18:34,930 --> 01:18:35,930
So she spends a time

1598
01:18:36,813 --> 01:18:39,024
a lot of time thinking
about physics, pointed out,

1599
01:18:39,024 --> 01:18:39,980
she said, objects in motion tend to stay

1600
01:18:39,980 --> 01:18:42,202
in motion unless acted upon, right?

1601
01:18:42,202 --> 01:18:45,320
And I think a lot about this idea

1602
01:18:45,320 --> 01:18:47,740
of race and how it's percolated
our scientific enterprise.

1603
01:18:47,740 --> 01:18:51,460
And you can imagine how
small of a shift it would be

1604

01:18:51,460 --> 01:18:52,920
if instead of saying race

1605
01:18:52,920 --> 01:18:57,422
we said likelihood to be the
subject of systemic racism,

1606
01:18:57,422 --> 01:19:00,278
which is likely the exact
same thing, all right?

1607
01:19:00,278 --> 01:19:03,680
And, and we just shifted it that way.

1608
01:19:03,680 --> 01:19:05,870
And all of a sudden what you're describing

1609
01:19:05,870 --> 01:19:09,181
in studies is a thing that the
entire system is doing wrong

1610
01:19:09,181 --> 01:19:10,710
to somebody, right?

1611
01:19:10,710 --> 01:19:12,200
And I can imagine how easy it would be

1612
01:19:12,200 --> 01:19:13,983
for somebody to sign up to a study.

1613
01:19:13,983 --> 01:19:16,470
And it's like, oh, I get
to prove that this, there

1614
01:19:16,470 --> 01:19:18,960
is systemic racism that is
actually doing something wrong

1615
01:19:18,960 --> 01:19:20,733

and it's having a difference
in health outcome.

1616

01:19:20,733 --> 01:19:22,620

And so all of a sudden the framing, right,

1617

01:19:22,620 --> 01:19:25,104

around how we think

about, how we interpret,

1618

01:19:25,104 --> 01:19:26,080

and how we communicate race,

1619

01:19:26,080 --> 01:19:28,850

instead of saying it is, you

know, rate, it is likelihood

1620

01:19:28,850 --> 01:19:31,440

in the society that we

exist in to experience a set

1621

01:19:31,440 --> 01:19:33,710

of factors that causes

a different outcome.

1622

01:19:33,710 --> 01:19:36,323

And then certainly one could

do the followup studies

1623

01:19:36,323 --> 01:19:37,667

and say, well, you know

1624

01:19:37,667 --> 01:19:40,870

the mediators are income and

how lending practices might

1625

01:19:40,870 --> 01:19:43,567

may change how one moves through society

1626

01:19:43,567 --> 01:19:46,340
or student loans, or
multi-generational stress,

1627
01:19:46,340 --> 01:19:48,920
or, you know police
brutality in a community.

1628
01:19:48,920 --> 01:19:50,750
But we frame it from the broad perspective

1629
01:19:50,750 --> 01:19:52,687
of that's actually what
we're talking about

1630
01:19:52,687 --> 01:19:55,210
and that's what the larger impact is

1631
01:19:55,210 --> 01:19:57,410
of the health outcomes
that we're observing.

1632
01:19:59,167 --> 01:20:00,670
– And yeah, just to extend

1633
01:20:00,670 --> 01:20:05,150
on that a little bit, heritage
is a, it's a very, it's

1634
01:20:05,150 --> 01:20:08,280
it's a nice term to start
with with kind of like

1635
01:20:08,280 --> 01:20:11,900
to also think about the idea
that social systems, of course

1636
01:20:11,900 --> 01:20:15,750
impact heritage, basically
everything a generation faces,

1637
01:20:15,750 --> 01:20:17,430
everything that generation goes through

1638
01:20:17,430 --> 01:20:19,530
affects how they pass their genes

1639
01:20:19,530 --> 01:20:22,520
and other basically heritable things down

1640
01:20:22,520 --> 01:20:24,670
to the next generation and
across generations that

1641
01:20:24,670 --> 01:20:26,650
that forms a heritage that will certainly

1642
01:20:26,650 --> 01:20:29,600
be impacted in a major way

1643
01:20:29,600 --> 01:20:34,370
by the social systems surrounding
people of that heritage.

1644
01:20:34,370 --> 01:20:38,271
And so thinking sort of
hearkening back to yesterday

1645
01:20:38,271 --> 01:20:42,690
trying to, even at the level
of the most basic science,

1646
01:20:42,690 --> 01:20:45,950
think about the impact of social systems

1647
01:20:45,950 --> 01:20:49,540
or at least thinking about
the relevance or, or, yeah,

1648
01:20:49,540 --> 01:20:52,052
thinking about a research
scientist question

1649
01:20:52,052 --> 01:20:56,380
about biology at least in
the context of social systems

1650
01:20:56,380 --> 01:20:57,965
that may have affected heritage

1651
01:20:57,965 --> 01:21:01,280
might be something that is interesting to

1652
01:21:01,280 --> 01:21:02,993
to kind of think through.

1653
01:21:05,150 --> 01:21:07,770
– Yeah, and I think that the
idea there is certainly saying

1654
01:21:07,770 --> 01:21:08,930
if we don't have a long history

1655
01:21:08,930 --> 01:21:11,970
in which race is used
poorly, then we can sort

1656
01:21:11,970 --> 01:21:14,990
of become neutral and how
we're navigating it, right?

1657
01:21:14,990 --> 01:21:16,220
But the idea here is actually

1658
01:21:16,220 --> 01:21:19,565
to create almost an
anti-racism counteraction

1659
01:21:19,565 --> 01:21:22,594
to say this is how you've
thought about race.

1660
01:21:22,594 --> 01:21:25,120
The counterbalance of that is actually to

1661
01:21:25,120 --> 01:21:27,656
say racist actually been
mediating a negative effect.

1662
01:21:27,656 --> 01:21:30,010
And I think it's really
important for framing

1663
01:21:30,010 --> 01:21:32,860
even how we as academics tend to view

1664
01:21:32,860 --> 01:21:36,473
that more broadly across the enterprise.

1665
01:21:40,100 --> 01:21:41,040
- Along those lines,

1666
01:21:41,040 --> 01:21:45,490
there's an interesting sort
of study design question

1667
01:21:45,490 --> 01:21:47,450
that's coming from one of the attendees.

1668
01:21:47,450 --> 01:21:49,480
And I think it actually has a lot

1669
01:21:49,480 --> 01:21:50,787
of like many layers of an answer.

1670
01:21:50,787 --> 01:21:53,040

And that is how can we

1671

01:21:53,040 --> 01:21:56,660

or how do we measure racial discrimination

1672

01:21:56,660 --> 01:21:57,780

in our research subjects?

1673

01:21:57,780 --> 01:22:00,220

What are the different ways we
measure racial discrimination

1674

01:22:00,220 --> 01:22:01,370

or the effects thereof?

1675

01:22:07,090 --> 01:22:08,500

- I'm happy to jump in.

1676

01:22:08,500 --> 01:22:10,690

I'll tell you a little bit
about what we're doing within

1677

01:22:10,690 --> 01:22:14,860

within ABCD, which has been a,
an evolving, growing process.

1678

01:22:14,860 --> 01:22:17,345

The kids are now about 13 or 14 years old.

1679

01:22:17,345 --> 01:22:19,360

Some of these different
things that we're talking

1680

01:22:19,360 --> 01:22:21,966

about kind of come into
play at different stages.

1681

01:22:21,966 --> 01:22:24,080

I remember when we were

getting started with ABCD

1682

01:22:24,080 --> 01:22:25,920
a lot of folks were saying
is ABCD is an imaging study,

1683

01:22:25,920 --> 01:22:29,281
ABCD is all about the
brain, but very early on

1684

01:22:29,281 --> 01:22:31,350
we had the liberty

1685

01:22:31,350 --> 01:22:34,170
of forming these different
work groups that focused on

1686

01:22:34,170 --> 01:22:36,560
on other relevant and
important constructs.

1687

01:22:36,560 --> 01:22:38,351
And a lot of folks are
brought to the table.

1688

01:22:38,351 --> 01:22:40,840
And in retrospect, there's a lot

1689

01:22:40,840 --> 01:22:43,870
of things that happened
that I think can help us.

1690

01:22:43,870 --> 01:22:48,840
So for example, we are
asking our participants

1691

01:22:48,840 --> 01:22:50,810
how much discrimination they experience?

1692

01:22:50,810 --> 01:22:53,130
Have you ever been
discriminated against because

1693
01:22:53,130 --> 01:22:55,810
of the color of your skin,
because you're an immigrant,

1694
01:22:55,810 --> 01:22:59,028
because of your body type,
because of your sexual identity?

1695
01:22:59,028 --> 01:23:03,014
We're asking if they feel
discrimination from teachers,

1696
01:23:03,014 --> 01:23:05,130
from other people in their lives.

1697
01:23:05,130 --> 01:23:08,150
So we have this self report aspect of it.

1698
01:23:08,150 --> 01:23:10,910
We also ask youth about
their and the parents

1699
01:23:10,910 --> 01:23:13,104
about their heritage culture
and about participating

1700
01:23:13,104 --> 01:23:14,920
in activities of their heritage, culture

1701
01:23:14,920 --> 01:23:16,594
and other cultures.

1702
01:23:16,594 --> 01:23:17,427
We ask about ethnic identity
and how they identify.

1703

01:23:17,427 --> 01:23:20,490
So in addition to the standard
check boxes, there is a

1704

01:23:20,490 --> 01:23:22,841
and we go back a couple
of generations as well.

1705

01:23:22,841 --> 01:23:25,970
So this is all within the ABCD data

1706

01:23:25,970 --> 01:23:29,330
for folks to hopefully use
this in a very positive

1707

01:23:29,330 --> 01:23:32,530
and responsible way with
these sorts of variables.

1708

01:23:32,530 --> 01:23:33,750
So this is in addition to all

1709

01:23:33,750 --> 01:23:36,310
of the biological variables
that are being collected.

1710

01:23:36,310 --> 01:23:39,487
There's also collection of
baby teeth for youth wheresome

1711

01:23:39,487 --> 01:23:42,590
of the other investigators
are trying to get information

1712

01:23:42,590 --> 01:23:43,690
on the environmental toxins.

1713

01:23:43,690 --> 01:23:46,670
So some of the things

that I've heard so far

1714

01:23:46,670 --> 01:23:49,010
about what could be done in
study sections, this bringing

1715

01:23:49,010 --> 01:23:54,010
in reviewers from other
adjacent relevant disciplines

1716

01:23:54,310 --> 01:23:58,000
into the review process,
sounds like a great idea

1717

01:23:58,000 --> 01:24:00,116
to me because we all have blind spots

1718

01:24:00,116 --> 01:24:03,470
as very focused narrow researchers.

1719

01:24:03,470 --> 01:24:05,140
What I heard from Dr. Dzirasa

1720

01:24:05,140 --> 01:24:08,200
about, about the folks that he
brought in from the community

1721

01:24:08,200 --> 01:24:11,190
not just to, to kind of be
advocates for the study,

1722

01:24:11,190 --> 01:24:12,580
but to listen to what
it is that they have to

1723

01:24:12,580 --> 01:24:16,020
say that needs to be done for
the research to make an impact

1724

01:24:16,020 --> 01:24:18,770
in the community is something
that I'm also taking

1725
01:24:18,770 --> 01:24:21,480
to heart because it's,
it's critically important.

1726
01:24:21,480 --> 01:24:24,867
The part that concerns me is the, the

1727
01:24:24,867 --> 01:24:26,460
the availability of resource.

1728
01:24:26,460 --> 01:24:30,000
I mean, ABCD is such a Herculean study

1729
01:24:30,000 --> 01:24:31,470
with so much resources behind it.

1730
01:24:31,470 --> 01:24:32,820
I want to be also pragmatic

1731
01:24:32,820 --> 01:24:36,110
and think not everybody's
going to have the money

1732
01:24:36,110 --> 01:24:37,620
and the funds that go along

1733
01:24:37,620 --> 01:24:39,113
with the research that
they're trying to do to.

1734
01:24:39,113 --> 01:24:42,810
We'd be able to collect data
on all of these variables

1735
01:24:42,810 --> 01:24:45,210

even if it had the best intentions.

1736

01:24:45,210 --> 01:24:49,110

So we have to come up with,
if we can't do it right

1737

01:24:49,110 --> 01:24:51,860

then we need to be upfront
when we write our papers

1738

01:24:51,860 --> 01:24:55,550

about how flawed the
methods that we're using are

1739

01:24:55,550 --> 01:24:58,150

to not inadvertently communicate

1740

01:24:58,150 --> 01:25:02,570

that there is something
magical, static, and immutable

1741

01:25:02,570 --> 01:25:04,900

about any sort of racial
differences that we see.

1742

01:25:04,900 --> 01:25:06,855

I mean, that could be a start.

1743

01:25:06,855 --> 01:25:09,209

- Natalie, I see you nodding.

1744

01:25:09,209 --> 01:25:14,209

- Yeah, so I will build off
of Dr. Gonzalez's response

1745

01:25:14,750 --> 01:25:19,620

to say, in addition to these
individual types of surveys

1746

01:25:19,620 --> 01:25:23,200
of people experienced people's
interpersonal experiences

1747
01:25:23,200 --> 01:25:26,670
of discrimination or ethnic identity

1748
01:25:26,670 --> 01:25:27,810
and that sort of thing.

1749
01:25:27,810 --> 01:25:30,200
I know that ABCD and many other

1750
01:25:30,200 --> 01:25:32,270
of our federally
supported studies nowadays

1751
01:25:32,270 --> 01:25:34,880
collect the participants addresses so

1752
01:25:34,880 --> 01:25:37,210
that they can geo-code
check characteristics

1753
01:25:37,210 --> 01:25:40,223
of the social environments
to characterize the

1754
01:25:40,223 --> 01:25:44,820
the social structures, the
quality of the environment

1755
01:25:44,820 --> 01:25:47,650
in terms of toxins and other ways that

1756
01:25:47,650 --> 01:25:51,160
that individuals are going to differ based

1757
01:25:51,160 --> 01:25:55,380

on the types of
opportunities that they have

1758

01:25:55,380 --> 01:25:58,250
for healthy development and
for high quality education

1759

01:25:58,250 --> 01:26:01,405
and all of these things that
we know drive disparities

1760

01:26:01,405 --> 01:26:02,823
across the life force.

1761

01:26:05,680 --> 01:26:09,334
- I have wondered also,
particularly yesterday when

1762

01:26:09,334 --> 01:26:11,720
we were talking so much
about social systems,

1763

01:26:11,720 --> 01:26:15,070
if that the idea of
bringing different kinds

1764

01:26:15,070 --> 01:26:17,840
of science to the table,
particularly areas

1765

01:26:17,840 --> 01:26:20,190
of science that aren't
typically funded by NIH.

1766

01:26:20,190 --> 01:26:22,180
So really bringing very different kinds

1767

01:26:22,180 --> 01:26:24,040
of scientific perspectives

1768

01:26:24,040 --> 01:26:27,620
to the table when it
comes to study sessions,

1769

01:26:27,620 --> 01:26:31,848
journal editorial boards,
and, and things like that,

1770

01:26:31,848 --> 01:26:36,151
it might help us prioritize the variables

1771

01:26:36,151 --> 01:26:38,750
in some way, it's his
place, in is the case,

1772

01:26:38,750 --> 01:26:40,807
that we don't have enough resources

1773

01:26:40,807 --> 01:26:43,500
to basically proliferate
variables to collect

1774

01:26:43,500 --> 01:26:46,130
about people in a non prioritized way.

1775

01:26:46,130 --> 01:26:47,720
But I'm wondering if there's a way

1776

01:26:47,720 --> 01:26:50,290
of the different kinds of science to weigh

1777

01:26:50,290 --> 01:26:54,840
in on how variables can be
prioritized or, or whether

1778

01:26:54,840 --> 01:26:57,250
or not there's the constructs
that we're using to

1779
01:26:57,250 --> 01:27:00,943
create variables are valid
across different disciplines?

1780
01:27:00,943 --> 01:27:05,943
- Yeah, so I can sort
of diverge a little bit

1781
01:27:07,030 --> 01:27:09,908
but I think this will come
back to the, to the, to the

1782
01:27:09,908 --> 01:27:11,810
the topic that we're on.

1783
01:27:11,810 --> 01:27:13,600
So one of the things that
I think is critically

1784
01:27:13,600 --> 01:27:15,410
important is not just
thinking about how to

1785
01:27:15,410 --> 01:27:19,070
expense study sections and
expand participants in research,

1786
01:27:19,070 --> 01:27:20,750
but we need to be thinking
more strategically

1787
01:27:20,750 --> 01:27:22,850
about how to expand the participants

1788
01:27:22,850 --> 01:27:24,330
of the researchers, right?

1789
01:27:24,330 --> 01:27:26,280
So those that are actually

asking the questions

1790

01:27:26,280 --> 01:27:27,650

and participating in the enterprise.

1791

01:27:27,650 --> 01:27:30,693

Certainly as we look at
the whole NIH portfolio,

1792

01:27:30,693 --> 01:27:32,990

1% of the scientists and I just want it

1793

01:27:32,990 --> 01:27:35,466

in the extramural program
are black, 5% are Hispanic.

1794

01:27:35,466 --> 01:27:39,230

And as we move towards, you
know, 2050, where the majority

1795

01:27:39,230 --> 01:27:42,170

of the country is going
to be in a racial or ethnic

1796

01:27:42,170 --> 01:27:44,380

what we consider a minority group, we, we

1797

01:27:44,380 --> 01:27:45,810

haven't done a good job of figuring

1798

01:27:45,810 --> 01:27:47,660

out how to extract those ideas

1799

01:27:47,660 --> 01:27:50,650

and talents and the perspectives
of that research group.

1800

01:27:50,650 --> 01:27:52,540

So I think there needs

to be strategic focus

1801

01:27:52,540 --> 01:27:54,390
on those efforts as well, right?

1802

01:27:54,390 --> 01:27:57,630
Some of how we, you know,
we can certainly postulate

1803

01:27:57,630 --> 01:28:00,903
on the best strategies to, to
quantify things and, you know

1804

01:28:00,903 --> 01:28:03,141
to test the hypothesis generation.

1805

01:28:03,141 --> 01:28:05,155
And the way we solve this
is we have a hypothesis

1806

01:28:05,155 --> 01:28:05,988
and we do to study and figure out

1807

01:28:05,988 --> 01:28:07,560
the best way to quantify, you know,

1808

01:28:07,560 --> 01:28:10,020
what these factors are and how
to think about these things

1809

01:28:10,020 --> 01:28:12,180
in population, such
that we can capture them

1810

01:28:12,180 --> 01:28:13,900
and ultimately understand health outcomes.

1811

01:28:13,900 --> 01:28:15,510
So we really need to be thinking

1812

01:28:15,510 --> 01:28:18,310
about how to bring scientists
into the enterprise,

1813

01:28:18,310 --> 01:28:20,150
allow them to ask the unique set

1814

01:28:20,150 --> 01:28:22,680
of questions that come along
with them being an individual,

1815

01:28:22,680 --> 01:28:26,270
and coming from a
trajectory through growing

1816

01:28:26,270 --> 01:28:28,550
up here in the United
States or migrating here

1817

01:28:28,550 --> 01:28:32,100
that otherwise has not classically
been funded and supported

1818

01:28:32,100 --> 01:28:35,120
in the research portfolio
of those asking questions.

1819

01:28:35,120 --> 01:28:37,937
These things are particularly
of importance focus now

1820

01:28:37,937 --> 01:28:41,490
and I know there's a lot of
intention been paid to funding

1821

01:28:41,490 --> 01:28:44,060
disparity differences,
particularly for black scientists.

1822
01:28:44,060 --> 01:28:46,770
I just think it, it it's
time to not simply think

1823
01:28:46,770 --> 01:28:49,550
about the topic choice,
but the diversity of talent

1824
01:28:49,550 --> 01:28:52,400
in our country being brought
into the enterprise as well.

1825
01:28:55,560 --> 01:28:58,290
- Yeah, I think one of the
questions that does come up

1826
01:28:58,290 --> 01:29:01,482
with regard to the scientific
workforce issue yeah,

1827
01:29:01,482 --> 01:29:05,360
is this question of not just bringing in

1828
01:29:05,360 --> 01:29:06,930
not just changing the demographics

1829
01:29:06,930 --> 01:29:09,350
of the scientific reforest
as scientific workforce,

1830
01:29:09,350 --> 01:29:13,610
but finding a way to change the sort

1831
01:29:13,610 --> 01:29:14,620
of master narrative,

1832
01:29:14,620 --> 01:29:16,470
change the kinds of questions were asking,

1833
01:29:16,470 --> 01:29:18,680
and allow the new faces that we bring

1834
01:29:18,680 --> 01:29:21,830
into the pipeline to be basically

1835
01:29:21,830 --> 01:29:23,810
the forces behind this change.

1836
01:29:23,810 --> 01:29:27,130
So I don't want to basically
help young scientists come

1837
01:29:27,130 --> 01:29:30,640
in to the pipeline and drink
the same Kool-Aid that I drink,

1838
01:29:30,640 --> 01:29:33,073
I want them to change the narrative.

1839
01:29:37,680 --> 01:29:40,480
- Holly, I have to tell
you the young scientists,

1840
01:29:40,480 --> 01:29:42,190
I mean they're holding
our feet to the fire.

1841
01:29:42,190 --> 01:29:43,360
I'm so grateful to them.

1842
01:29:43,360 --> 01:29:46,590
It's incredibly uncomfortable
at times, but it

1843
01:29:46,590 --> 01:29:50,760
it it's it's necessary
for change to happen.

1844
01:29:50,760 --> 01:29:54,002
What I've seen from some of
the youth coming up now, they

1845
01:29:54,002 --> 01:29:59,002
they are brazen and, and
unapologetic and want,

1846
01:29:59,105 --> 01:30:01,010
they see change as attainable

1847
01:30:01,010 --> 01:30:03,090
and they want to make it happen.

1848
01:30:03,090 --> 01:30:06,109
And I wholeheartedly encourage all of them

1849
01:30:06,109 --> 01:30:08,770
despite whatever
reactions they tend to get

1850
01:30:08,770 --> 01:30:11,757
from their PIs, you know,
have some patience with us,

1851
01:30:11,757 --> 01:30:13,800
bring us along for the ride.

1852
01:30:13,800 --> 01:30:17,760
And, and I, I'm certainly
grateful for them.

1853
01:30:17,760 --> 01:30:19,160
They see things differently.

1854
01:30:22,016 --> 01:30:24,600
- I want to jump to a
topic that I don't want

1855
01:30:24,600 --> 01:30:25,680
to miss before we leave.

1856
01:30:25,680 --> 01:30:30,540
And that is kind of
maybe outside of the box.

1857
01:30:30,540 --> 01:30:32,710
I hate those phrases, but, you
know, out of the box thinking

1858
01:30:32,710 --> 01:30:36,350
or an honest discussion about
where, what we typically think

1859
01:30:36,350 --> 01:30:38,480
of as basic and translational science,

1860
01:30:38,480 --> 01:30:43,480
where it fits into a health
equity mandate, or, and

1861
01:30:43,677 --> 01:30:47,181
and that is if I define
basic science as any science

1862
01:30:47,181 --> 01:30:50,690
with any kind of population,
any species that's just

1863
01:30:50,690 --> 01:30:54,430
designed to uncover a
fundamental principle underlying

1864
01:30:54,430 --> 01:30:56,620
you know, that that's,
that's actually conserved

1865
01:30:56,620 --> 01:30:59,450

across living organisms as basic science,

1866

01:30:59,450 --> 01:31:02,450

translational science is
actually using those principles

1867

01:31:02,450 --> 01:31:04,600

trying to look at basic
fundamental principles

1868

01:31:04,600 --> 01:31:08,910

as they might apply to
disease states or disorders.

1869

01:31:08,910 --> 01:31:11,980

A lot of times, particularly
scientists in these areas

1870

01:31:11,980 --> 01:31:14,940

particularly those scientists
that don't use humans

1871

01:31:14,940 --> 01:31:16,930

oftentimes just see themselves as separate

1872

01:31:16,930 --> 01:31:20,810

from the conversation of health equity.

1873

01:31:20,810 --> 01:31:24,070

And I'm wondering what your thoughts are

1874

01:31:24,070 --> 01:31:27,860

on how we're going to better
bring those scientists

1875

01:31:27,860 --> 01:31:31,230

into the conversation in terms
of what they need to know,

1876

01:31:31,230 --> 01:31:32,760
how they can better

1877
01:31:32,760 --> 01:31:35,618
and maybe more humbly
interpret their data,

1878
01:31:35,618 --> 01:31:37,423
what they have to contribute.

1879
01:31:37,423 --> 01:31:38,973
What are your thoughts on that?

1880
01:31:41,200 --> 01:31:42,270
- Yeah, I'd say for me,

1881
01:31:42,270 --> 01:31:44,957
I was extremely challenged in that in

1882
01:31:44,957 --> 01:31:47,876
you could appreciate this
from the research talk

1883
01:31:47,876 --> 01:31:48,910
that gave, I'm a basic scientist

1884
01:31:48,910 --> 01:31:51,360
and I think about, you
know, genetic manipulations

1885
01:31:51,360 --> 01:31:53,157
and study how they affect
brain cells, right?

1886
01:31:53,157 --> 01:31:55,640
And, you know, it was, it was when

1887
01:31:55,640 --> 01:31:58,900
I appreciate it again, my family suffers

1888
01:31:58,900 --> 01:32:01,290
from profound psychiatric illness.

1889
01:32:01,290 --> 01:32:02,320
And when I appreciate it

1890
01:32:02,320 --> 01:32:05,190
that the genetic manipulations
that I was recreating

1891
01:32:05,190 --> 01:32:08,446
in mice that were based
on European ancestry,

1892
01:32:08,446 --> 01:32:11,110
it was quite the wake up moment for me

1893
01:32:11,110 --> 01:32:13,554
for picking about how me
as a basic scientist was so

1894
01:32:13,554 --> 01:32:18,230
upholding an enterprise that
was that was less likely

1895
01:32:18,230 --> 01:32:20,020
to your cures and therapies

1896
01:32:20,020 --> 01:32:22,380
for my family on the
other side of it, right?

1897
01:32:22,380 --> 01:32:24,150
So I think sometimes we think of this in

1898
01:32:24,150 --> 01:32:27,029
in such a distinctive separate way, right?

1899
01:32:27,029 --> 01:32:28,740
Like I don't like it's a mouse, right?

1900
01:32:28,740 --> 01:32:30,700
Like if it's a whiskers
go a little bit slower

1901
01:32:30,700 --> 01:32:32,560
why is this relevant to human health?

1902
01:32:32,560 --> 01:32:35,470
But certainly the knowledge
that we create has

1903
01:32:35,470 --> 01:32:37,645
a potential to extrapolate in ways that

1904
01:32:37,645 --> 01:32:42,100
that we need to be aware of more broadly.

1905
01:32:42,100 --> 01:32:45,200
At a minimum, in terms
of training scientists,

1906
01:32:45,200 --> 01:32:47,510
we need to be aware of this
in terms of how we're thinking

1907
01:32:47,510 --> 01:32:49,510
about and training that next generation

1908
01:32:49,510 --> 01:32:51,370
of really awesome scientists, right?

1909
01:32:51,370 --> 01:32:53,970
Like I, I honestly thought of myself

1910
01:32:53,970 --> 01:32:56,650

as being a young scientist until I went

1911

01:32:56,650 --> 01:32:58,790

for a run and I was
super sore the next day.

1912

01:32:58,790 --> 01:33:02,640

And it occurred to me
that I was like over 40

1913

01:33:02,640 --> 01:33:05,760

and needed to start
thinking about the Chinese

1914

01:33:05,760 --> 01:33:08,320

as the next group of
scientists and making sure

1915

01:33:08,320 --> 01:33:10,660

that I create space for
people to bring a new set

1916

01:33:10,660 --> 01:33:13,390

of ideas and perspective
into the field as well.

1917

01:33:13,390 --> 01:33:15,860

So even at a minimum,
those that are sitting

1918

01:33:15,860 --> 01:33:19,060

at the bench thinking primarily
about a protein or cells,

1919

01:33:19,060 --> 01:33:22,544

or flies need to be
really aware of the role

1920

01:33:22,544 --> 01:33:26,210

that we are playing in

creating the next generation

1921

01:33:26,210 --> 01:33:28,300

of those that will ask critical questions.

1922

01:33:28,300 --> 01:33:30,670

And you mentioned peer review as well.

1923

01:33:30,670 --> 01:33:34,090

The reason one must be

so, so quickly aware

1924

01:33:34,090 --> 01:33:36,820

important to be aware of systemic racism

1925

01:33:36,820 --> 01:33:39,420

and the innate biases that humans have is

1926

01:33:39,420 --> 01:33:41,630

that we all have them, right?

1927

01:33:41,630 --> 01:33:44,280

And we have an innate

bias towards, you know

1928

01:33:44,280 --> 01:33:47,850

recreating self, which,

you know, we could live

1929

01:33:47,850 --> 01:33:52,290

with if the history of self

was even an equally distributed

1930

01:33:52,290 --> 01:33:56,620

in this country, which

it, it certainly isn't.

1931

01:33:56,620 --> 01:33:59,480

So I think it's really important

for everybody at every part

1932

01:33:59,480 --> 01:34:01,350
of the enterprise to
realize that we are not

1933

01:34:01,350 --> 01:34:04,290
operating independently
and that the decisions

1934

01:34:04,290 --> 01:34:06,790
and choices we make have
a profound potential

1935

01:34:06,790 --> 01:34:09,490
to ultimately shape the
health outcome of individuals.

1936

01:34:12,898 --> 01:34:15,057
- And along with that,
before we go to Amin,

1937

01:34:15,057 --> 01:34:16,173
I mean, I'd like everyone
to jump in there,

1938

01:34:17,941 --> 01:34:19,960
but it kind of we have a mandate for

1939

01:34:19,960 --> 01:34:22,280
in training for responsible
conduct of research

1940

01:34:22,280 --> 01:34:24,300
that is a component of training

1941

01:34:24,300 --> 01:34:28,671
for any NIH-funded training
program or fellowship.

1942

01:34:28,671 --> 01:34:33,671

Is there, is there, is there
value in having training

1943

01:34:34,880 --> 01:34:37,030

on health inequities
and social determinants

1944

01:34:37,030 --> 01:34:39,717

of health as simply a part of the basics

1945

01:34:39,717 --> 01:34:43,050

responsible conduct of
research curriculum,

1946

01:34:43,050 --> 01:34:46,150

in addition to responding
to what Kaf said?

1947

01:34:46,150 --> 01:34:46,983

- Yes.

1948

01:34:51,690 --> 01:34:54,620

- Can I so this is Tali Barron.

1949

01:34:54,620 --> 01:34:55,910

- Go ahead Tali.

1950

01:34:55,910 --> 01:34:57,470

- I'll be part of the next panel,

1951

01:34:57,470 --> 01:35:02,080

but I was really intrigued
by the depiction of

1952

01:35:02,080 --> 01:35:04,920

or the perhaps definition

1953

01:35:04,920 --> 01:35:07,040
of translational and basic
science, because, you know

1954
01:35:07,040 --> 01:35:09,900
we give things definition
just like we do with race.

1955
01:35:09,900 --> 01:35:12,170
And sometimes it might be
kind of helpful to think

1956
01:35:12,170 --> 01:35:14,430
about what the whole concept means.

1957
01:35:14,430 --> 01:35:15,830
The many different ways to look

1958
01:35:15,830 --> 01:35:17,470
at basic science mean basic science,

1959
01:35:17,470 --> 01:35:20,240
you can think of, if you want
to know how the TV's broken

1960
01:35:20,240 --> 01:35:21,980
you'll absolutely need
to know how it works.

1961
01:35:21,980 --> 01:35:24,960
And we will never figure out
how the brain, for example,

1962
01:35:24,960 --> 01:35:28,140
functions without going in
directions, we never knew existed

1963
01:35:28,140 --> 01:35:31,085
and exploring, and this can
be basic science, but again

1964

01:35:31,085 --> 01:35:33,858

we always know that whatever
we discover can be broken

1965

01:35:33,858 --> 01:35:35,830

and there will be a basis of disease,

1966

01:35:35,830 --> 01:35:38,110

including a propensity of vulnerability

1967

01:35:38,110 --> 01:35:39,940

to substance of disorder.

1968

01:35:39,940 --> 01:35:42,240

In terms of translational
science, again, I mean

1969

01:35:42,240 --> 01:35:45,010

what we have here is
oftentimes a clinical question

1970

01:35:45,010 --> 01:35:47,010

that we cannot answer
in human or in a clinic.

1971

01:35:47,010 --> 01:35:49,430

And we take it to the lab
to try to understand it

1972

01:35:49,430 --> 01:35:53,260

with the understanding
that that may be relevant

1973

01:35:53,260 --> 01:35:56,240

to a given human disorder or not.

1974

01:35:56,240 --> 01:36:00,310

But the translational

really is bi-directional,

1975

01:36:00,310 --> 01:36:02,360

you go from the clinic
to the lab and back,

1976

01:36:02,360 --> 01:36:04,900

and yes, the bridges are
sometimes a little fraught

1977

01:36:04,900 --> 01:36:08,700

and wet and snowy, and it's
not entirely clear what aspect

1978

01:36:08,700 --> 01:36:10,400

of the clinical questions we need to ask

1979

01:36:10,400 --> 01:36:15,400

and what aspect we can actually
address in basic science

1980

01:36:15,797 --> 01:36:18,987

if we call it, if we call basic science

1981

01:36:18,987 --> 01:36:21,070

the use of experimental models.

1982

01:36:21,070 --> 01:36:23,350

I think that it might be helpful

1983

01:36:23,350 --> 01:36:25,060

to really kind of blur the boundaries.

1984

01:36:25,060 --> 01:36:28,330

I mean, we are interested
in understanding, you know

1985

01:36:28,330 --> 01:36:30,357

the normal brain and a

normal reward secretory

1986

01:36:30,357 --> 01:36:33,850
and then the propensity
of vulnerability or action

1987

01:36:33,850 --> 01:36:37,240
or interaction of the brain and drug use

1988

01:36:37,240 --> 01:36:41,330
and drugs to the brain across a spectrum

1989

01:36:41,330 --> 01:36:43,710
of repertoire of
different types of brains,

1990

01:36:43,710 --> 01:36:45,293
different ages, and what have you.

1991

01:36:45,293 --> 01:36:46,440
So I would really vote

1992

01:36:46,440 --> 01:36:51,440
for not necessarily
picking out basic science

1993

01:36:51,470 --> 01:36:53,190
or translational science
or clinical science,

1994

01:36:53,190 --> 01:36:55,940
but really considering
them as a continuum.

1995

01:36:55,940 --> 01:36:58,570
And if there is an important question such

1996

01:36:58,570 --> 01:37:01,390
as the biological impact of racism

1997

01:37:01,390 --> 01:37:03,700
or other types of atrocity,
they should be asked

1998

01:37:03,700 --> 01:37:08,700
across all of these various
spectrum of, of, of science

1999

01:37:09,870 --> 01:37:14,241
with each part of it
contributing its unique assets

2000

01:37:14,241 --> 01:37:16,450
and strengths and powers,
and clearly understanding

2001

01:37:16,450 --> 01:37:18,630
that some questions
cannot be asked, you know

2002

01:37:18,630 --> 01:37:21,233
in a given set of experiments.

2003

01:37:23,090 --> 01:37:25,300
– An idea of instead of
categorizing research,

2004

01:37:25,300 --> 01:37:27,400
just ask people what is your question

2005

01:37:27,400 --> 01:37:29,534
and what design do you
use to study your question

2006

01:37:29,534 --> 01:37:32,302
might be the question we ask each other.

2007

01:37:32,302 --> 01:37:37,302

– What organism, what model,
what set of tools, what aspect

2008

01:37:37,850 --> 01:37:40,010
of the question are you focusing
on rather than putting it

2009

01:37:40,010 --> 01:37:43,453
in little silos of basic
translational and clinical?

2010

01:37:44,900 --> 01:37:45,733
– Others?

2011

01:37:50,020 --> 01:37:50,980
– Hi, this is Ron Palmer

2012

01:37:50,980 --> 01:37:52,630
and rehearsing in the next panel as well.

2013

01:37:52,630 --> 01:37:55,791
Tali. I just want to second

2014

01:37:55,791 --> 01:37:57,910
what Tali just said, I mean, I just came

2015

01:37:58,935 --> 01:38:00,580
from a talk that I gave

2016

01:38:00,580 --> 01:38:02,170
on cross species of data integration

2017

01:38:02,170 --> 01:38:05,070
and we are asking the
same kind of questions.

2018

01:38:05,070 --> 01:38:07,220
We were not discussing
about the impacts with race

2019

01:38:07,220 --> 01:38:11,273

but everyone is considering
how diversity plays a role

2020

01:38:11,273 --> 01:38:15,880

in how substances impact organisms.

2021

01:38:15,880 --> 01:38:17,660

And, you know, there
are researchers who are

2022

01:38:17,660 --> 01:38:19,070

trying to create diverse panels

2023

01:38:19,070 --> 01:38:22,970

of organisms that we can
to understand the impacts

2024

01:38:22,970 --> 01:38:25,240

of substances and how
best to translate that.

2025

01:38:25,240 --> 01:38:26,380

So I think what we're all thinking

2026

01:38:26,380 --> 01:38:29,410

about is that it'd be agglomerative effect

2027

01:38:29,410 --> 01:38:33,140

of all of the science that
informs our understanding

2028

01:38:33,140 --> 01:38:35,503

and how best to develop treatments.

2029

01:38:37,370 --> 01:38:38,203

- Thank you.

2030

01:38:39,567 --> 01:38:40,400

John Lu.

2031

01:38:41,726 --> 01:38:43,303

- So I want to go to back to
what Dr. Dzirasa was talking

2032

01:38:44,650 --> 01:38:49,028

about in terms of how
ancestry is very important.

2033

01:38:49,028 --> 01:38:51,909

I think one of the
things that I think a lot

2034

01:38:51,909 --> 01:38:55,120

of us are doing is in the rush

2035

01:38:55,120 --> 01:38:58,599

of trying to avoid the
discussion of racism,

2036

01:38:58,599 --> 01:39:01,966

we're trying to say,
okay, let's go beyond.

2037

01:39:01,966 --> 01:39:04,730

And I think Val was guilty of that.

2038

01:39:04,730 --> 01:39:08,430

I think let's go beyond what happened.

2039

01:39:08,430 --> 01:39:11,940

I mean, there's a history from 16

2040

01:39:11,940 --> 01:39:15,320

19 to present day as a
black, young black, I mean

2041

01:39:15,320 --> 01:39:17,470
as a young black American myself,

2042

01:39:17,470 --> 01:39:20,541
even though I'm an immigrant,
I grew up here and I

2043

01:39:20,541 --> 01:39:25,541
I'm assuming that Kafi went
through the same difficulties

2044

01:39:25,670 --> 01:39:30,670
and it's very difficult
to go beyond these, no

2045

01:39:31,210 --> 01:39:33,870
matter how much we say, wow,
the country needs to be better,

2046

01:39:33,870 --> 01:39:36,979
this stress is stress, the brains

2047

01:39:36,979 --> 01:39:41,150
and actually educated the kind

2048

01:39:41,150 --> 01:39:44,980
of questions that we have to
deal with in all the time.

2049

01:39:44,980 --> 01:39:48,957
So we're not ready to
go beyond those issues.

2050

01:39:50,070 --> 01:39:53,710
We need to discuss them clearly, honestly,

2051

01:39:53,710 --> 01:39:55,100
in our office, (indistinct),

2052

01:39:55,100 --> 01:40:00,100
about the presence of racism
and ancestry does matter.

2053

01:40:00,767 --> 01:40:03,768
And I think we should
pay attention to those.

2054

01:40:03,768 --> 01:40:06,143
Anyway, that's what I wanted to say.

2055

01:40:07,530 --> 01:40:10,072
- And I, I think part of the conversation,

2056

01:40:10,072 --> 01:40:11,417
part of what we were saying
is that, and I'm sorry Kaf,

2057

01:40:11,417 --> 01:40:15,100
but that maybe the
conversation just needs to sort

2058

01:40:15,100 --> 01:40:18,230
of change the perspective
in terms of the construct

2059

01:40:18,230 --> 01:40:20,270
of race and ethnicity
being a characteristic

2060

01:40:20,270 --> 01:40:23,610
of the individuals who
have actually been affected

2061

01:40:23,610 --> 01:40:27,940
by racism and make it more
about the effects of racism.

2062

01:40:27,940 --> 01:40:29,030

Kaf?

2063

01:40:29,030 --> 01:40:32,210

- You know, I, I, I
couldn't agree more, right?

2064

01:40:32,210 --> 01:40:35,220

I mean, to, to the point that
was just made, ancestry is so

2065

01:40:35,220 --> 01:40:37,660

important that the study
is primarily focused

2066

01:40:37,660 --> 01:40:38,990

on ancestry, right?

2067

01:40:38,990 --> 01:40:42,010

So that's how we know
ancestry is important

2068

01:40:42,010 --> 01:40:44,140

because they largely concentrated

2069

01:40:44,140 --> 01:40:46,536

into that certain ancestry in there.

2070

01:40:46,536 --> 01:40:48,980

To the point again, I think it's really

2071

01:40:48,980 --> 01:40:53,980

important that I am I'm
I'm while I'm, I'm saying

2072

01:40:54,470 --> 01:40:57,100

that race is certainly a social construct,

2073

01:40:57,100 --> 01:40:59,740

I think that we should, it

might be useful if we think

2074

01:40:59,740 --> 01:41:02,280
about the other side of the
race, the social construct,

2075

01:41:02,280 --> 01:41:04,300
and that's why I said
those that are likely

2076

01:41:04,300 --> 01:41:06,920
to have experienced systemic racism

2077

01:41:06,920 --> 01:41:09,980
because that is actually
what race was created

2078

01:41:09,980 --> 01:41:13,230
to do was to induce
systemic racism, right?

2079

01:41:13,230 --> 01:41:16,610
So it sort of articulates
that really clear and upfront

2080

01:41:16,610 --> 01:41:17,940
and that that's what we're observing

2081

01:41:17,940 --> 01:41:21,310
and puts that lens on it with
the interpretation as well.

2082

01:41:23,490 --> 01:41:26,070
- And again, just based on some

2083

01:41:26,070 --> 01:41:28,210
of the basic research done on stress,

2084

01:41:28,210 --> 01:41:30,660

those things have biological effects

2085

01:41:30,660 --> 01:41:33,330
that can be transmitted
across generations,

2086

01:41:33,330 --> 01:41:35,803
so it's not something to ignore.

2087

01:41:42,867 --> 01:41:43,700
- I'll just build on that point.

2088

01:41:43,700 --> 01:41:47,111
I completely agree with
everything that Dr. Dzirasa

2089

01:41:47,111 --> 01:41:49,650
and the other panelists coming up had said

2090

01:41:49,650 --> 01:41:52,960
and I would encourage all of us to think

2091

01:41:52,960 --> 01:41:55,950
about how our interdisciplinary
collaborations

2092

01:41:55,950 --> 01:42:00,950
can really help bridge
the knowledge that we need

2093

01:42:02,040 --> 01:42:05,460
to advance the interconnections

2094

01:42:05,460 --> 01:42:08,939
between the basic
translational and clinical work

2095

01:42:08,939 --> 01:42:12,480
enhancing the way that we

are measuring environment

2096

01:42:12,480 --> 01:42:17,133
to tap into these constructs
that are shaping disparities.

2097

01:42:20,950 --> 01:42:23,800
- We've had a number of comments
and questions that relate

2098

01:42:23,800 --> 01:42:26,530
to what are the questions
we should be asking?

2099

01:42:26,530 --> 01:42:29,240
And, and Raul touched upon that

2100

01:42:29,240 --> 01:42:31,468
in terms of variables to include a study.

2101

01:42:31,468 --> 01:42:35,750
I'm wondering if, if the
way each of you think of it

2102

01:42:35,750 --> 01:42:37,190
if you have in your mind, a set

2103

01:42:37,190 --> 01:42:40,860
of default questions that
must always be asked, unless

2104

01:42:40,860 --> 01:42:43,840
there is reasonable evidence
that they're not important.

2105

01:42:43,840 --> 01:42:46,453
Do you have a set of default
questions that, that you

2106

01:42:46,453 --> 01:42:50,890
that you ask in every study
that you do, or perhaps, yeah?

2107
01:42:50,890 --> 01:42:54,833
If that's not too much,
but perhaps think, let us

2108
01:42:54,833 --> 01:42:56,630
'cause you're from three
different disciplines,

2109
01:42:56,630 --> 01:42:58,670
so if you could enlighten us on the sort

2110
01:42:58,670 --> 01:43:01,570
of default questions you tend
to ask, that would be great.

2111
01:43:03,020 --> 01:43:07,380
- Well, I'll tell you that the,
what has generally been done

2112
01:43:07,380 --> 01:43:10,740
in the very narrow small
studies that I've been a part

2113
01:43:10,740 --> 01:43:12,550
of focusing on neurocognitive functioning

2114
01:43:12,550 --> 01:43:14,220
is the typical checklist.

2115
01:43:14,220 --> 01:43:16,620
We have these tables from NIDA that

2116
01:43:16,620 --> 01:43:18,600
we got to fill it in
a report that use kind

2117
01:43:18,600 --> 01:43:21,580
of the U.S. Census type of classification,

2118
01:43:21,580 --> 01:43:23,803
so we have to ask our
participants those questions.

2119
01:43:23,803 --> 01:43:26,530
Over the years, I have, in my experience

2120
01:43:26,530 --> 01:43:27,590
we've been adding things

2121
01:43:27,590 --> 01:43:31,251
like level of mother's education, income,

2122
01:43:31,251 --> 01:43:34,130
in these small studies.

2123
01:43:34,130 --> 01:43:35,920
With ABCD, we've had the opportunity

2124
01:43:35,920 --> 01:43:38,010
to expand well beyond that.

2125
01:43:38,010 --> 01:43:39,030
And that's where we brought

2126
01:43:39,030 --> 01:43:41,518
in the measures of discrimination

2127
01:43:41,518 --> 01:43:44,700
that the geo location data,
all of these other amalgamation

2128
01:43:44,700 --> 01:43:49,608
of things that we know impact folks

2129

01:43:49,608 --> 01:43:53,281
in adverse ways don't and
are not distributed equally

2130

01:43:53,281 --> 01:43:57,930
among folks fitting in various
races within, within the U S.

2131

01:43:57,930 --> 01:44:00,660
So I do not have a
standard set of questions.

2132

01:44:00,660 --> 01:44:03,155
I think that ABCD does
have the opportunity

2133

01:44:03,155 --> 01:44:05,950
given the breadth of variables

2134

01:44:05,950 --> 01:44:07,260
that we're currently collecting

2135

01:44:07,260 --> 01:44:12,028
to perhaps be a leader in
showing how these variables are

2136

01:44:12,028 --> 01:44:15,780
can be much more informative
and important than

2137

01:44:15,780 --> 01:44:18,273
than just looking at race.

2138

01:44:20,930 --> 01:44:23,442
- And if I can add this, I was
going to add, Raul, directly

2139

01:44:23,442 --> 01:44:28,250
whether there was something

that we are not asking currently

2140

01:44:28,250 --> 01:44:32,760
from the ABCD study that could
enrich it further, because

2141

01:44:32,760 --> 01:44:36,190
as we're going into the process,
we are learning from it.

2142

01:44:36,190 --> 01:44:38,747
And we're about to start a similar study

2143

01:44:38,747 --> 01:44:40,181
but in ECA that in infancy.

2144

01:44:40,181 --> 01:44:43,007
So we want to actually ensure

2145

01:44:43,007 --> 01:44:45,010
that what has been most valuable

2146

01:44:45,010 --> 01:44:48,530
from the ABCD can be translated alibied

2147

01:44:48,530 --> 01:44:52,850
for the age of these younger
kids, so that we take advantage

2148

01:44:52,850 --> 01:44:55,940
of the enormous opportunity
that the ABCD has had

2149

01:44:55,940 --> 01:45:00,940
for us to understand overall
how social economic factors

2150

01:45:01,393 --> 01:45:05,411
are influencing the differences

between ethnic groups.

2151

01:45:05,411 --> 01:45:08,230

So, so what are, what are some of the

2152

01:45:08,230 --> 01:45:10,830

from your experience

having been so intimately

2153

01:45:10,830 --> 01:45:14,712

involved with, where do you

think we're missing on the ABCD?

2154

01:45:14,712 --> 01:45:17,550

- Right now, we're in the process

2155

01:45:17,550 --> 01:45:21,470

within ABCD of a moment of self

reflection and examination.

2156

01:45:21,470 --> 01:45:22,577

And I think it's wonderful that all

2157

01:45:22,577 --> 01:45:25,870

of the ABCD leadership

has been supporting this.

2158

01:45:25,870 --> 01:45:29,213

And then also the NIDA

team that works with ABCD

2159

01:45:29,213 --> 01:45:32,160

is absolutely outstanding

and committed in this.

2160

01:45:32,160 --> 01:45:35,220

So we we've actually been

reviewing every measure

2161

01:45:35,220 --> 01:45:38,002
and the protocol or racist
and sexist language,

2162
01:45:38,002 --> 01:45:40,505
asking if there ways that
we can do things better,

2163
01:45:40,505 --> 01:45:43,340
talking about how we're
going to be dealing

2164
01:45:43,340 --> 01:45:45,720
with the dissemination of information,

2165
01:45:45,720 --> 01:45:47,503
the data use agreement, et cetera.

2166
01:45:47,503 --> 01:45:51,240
As, as you know Dr.
Volkov, the ABCD study is

2167
01:45:51,240 --> 01:45:54,280
is ambitious and it is longitudinal

2168
01:45:54,280 --> 01:45:56,090
and we got to keep the youth engaged

2169
01:45:56,090 --> 01:45:56,923
and the parents engaged,

2170
01:45:56,923 --> 01:46:00,054
and already were thinking
so much of their time.

2171
01:46:00,054 --> 01:46:01,625
And then imagine with COVID.

2172
01:46:01,625 --> 01:46:04,318

Now we have kids all
day in school via Zoom.

2173

01:46:04,318 --> 01:46:06,324
And now, hey, come do our study

2174

01:46:06,324 --> 01:46:09,770
for another four hours on
Zoom after you're done.

2175

01:46:09,770 --> 01:46:12,520
Like we're starting to
look like school for them,

2176

01:46:12,520 --> 01:46:13,810
which is a bit of a problem.

2177

01:46:13,810 --> 01:46:18,810
So there's always this tension
in ABCD every year as we

2178

01:46:18,910 --> 01:46:21,680
the various work groups
reevaluate what measures to

2179

01:46:21,680 --> 01:46:24,339
include given the developmental
stage at the youth are in

2180

01:46:24,339 --> 01:46:28,765
about what stays in the
protocol, what goes out,

2181

01:46:28,765 --> 01:46:31,300
what gets expanded on, what gets reduced,

2182

01:46:31,300 --> 01:46:34,240
because we only have so
much time and resources.

2183

01:46:34,240 --> 01:46:38,870
So the culture and environment
work group, which has some

2184

01:46:38,870 --> 01:46:41,740
of these items, you know, we're
limited to about 18 minutes

2185

01:46:41,740 --> 01:46:44,242
of time with asking
questions of the parent

2186

01:46:44,242 --> 01:46:47,350
and another, you know,
about 15 of the youth.

2187

01:46:47,350 --> 01:46:50,490
So I think resources for the
geo location data and things,

2188

01:46:50,490 --> 01:46:53,455
data that can be collected
possibly in the background

2189

01:46:53,455 --> 01:46:55,930
can greatly expand the amount of data

2190

01:46:55,930 --> 01:46:57,110
that we have for the youth

2191

01:46:57,110 --> 01:47:01,413
without having to burden
the families even even more.

2192

01:47:02,275 --> 01:47:04,160
- [Woman] And I want to
allow others to jump in.

2193

01:47:04,160 --> 01:47:05,280

Oh, go ahead, Nora.

2194

01:47:05,280 --> 01:47:08,500

- No, I was going to say,
I agree wholeheartedly.

2195

01:47:08,500 --> 01:47:10,930

And I think that this has become evident

2196

01:47:10,930 --> 01:47:13,620

in some of the stories that
have already been reported

2197

01:47:13,620 --> 01:47:15,930

on the basis of neighborhood
deprivation, for example.

2198

01:47:15,930 --> 01:47:20,930

And that's a measure that we
don't necessarily need to take

2199

01:47:21,183 --> 01:47:25,240

from the individual himself or
herself, but it may be there

2200

01:47:25,240 --> 01:47:27,402

in that space that we may
be able also to expand.

2201

01:47:27,402 --> 01:47:31,250

So we have measures of school performance,

2202

01:47:31,250 --> 01:47:34,210

but they have to be
normalized with respect

2203

01:47:34,210 --> 01:47:36,791

to you cannot translate from
one school to the other.

2204
01:47:36,791 --> 01:47:39,536
So I think that in thinking about it,

2205
01:47:39,536 --> 01:47:42,786
trying to figure out
what would be desirable

2206
01:47:42,786 --> 01:47:45,610
would be very valuable
because then we can try

2207
01:47:45,610 --> 01:47:48,650
to tackle what is it that
we need to do to make

2208
01:47:48,650 --> 01:47:51,263
ABCD able to get this information.

2209
01:47:53,520 --> 01:47:55,180
- I just, I want to allow others to jump

2210
01:47:55,180 --> 01:47:57,380
in before we leave the conversation

2211
01:47:57,380 --> 01:48:00,100
just about default
questions, sort of the, sort

2212
01:48:00,100 --> 01:48:02,360
of the considerations that
always go into your research

2213
01:48:02,360 --> 01:48:04,108
that you'd like others to be aware of.

2214
01:48:04,108 --> 01:48:05,253
Natalie?

2215

01:48:07,917 --> 01:48:10,720
- Sure, so I would say that,
you know, when we're talking

2216
01:48:10,720 --> 01:48:14,650
about measuring culture or
social environments, you know

2217
01:48:14,650 --> 01:48:16,350
the opportunities are endless.

2218
01:48:16,350 --> 01:48:20,440
And I think that it really
will depend on the goals

2219
01:48:20,440 --> 01:48:22,780
of the given study because
those rules says that,

2220
01:48:22,780 --> 01:48:24,550
you know, resources are constrained.

2221
01:48:24,550 --> 01:48:25,830
We can only expect so much

2222
01:48:25,830 --> 01:48:29,040
of our participants when
we can have the opportunity

2223
01:48:29,040 --> 01:48:32,170
to link information that
may exist elsewhere,

2224
01:48:32,170 --> 01:48:34,860
such as from census or
administrative data.

2225
01:48:34,860 --> 01:48:37,293
That's great because it doesn't
present participant burden,

2226

01:48:37,293 --> 01:48:40,920

but when it comes to
questionnaires, you know

2227

01:48:40,920 --> 01:48:43,850

there's so many opportunities
options out there.

2228

01:48:43,850 --> 01:48:47,290

I actually think ADCB did a
very good job being familiar

2229

01:48:47,290 --> 01:48:48,220

with the protocol.

2230

01:48:48,220 --> 01:48:50,040

And I think, you know, it's amazing

2231

01:48:50,040 --> 01:48:52,050

that there will be an
instant cohort starting

2232

01:48:52,050 --> 01:48:53,840

because you know, in my view

2233

01:48:53,840 --> 01:48:56,340

as a child development person,
what is missing is, you know,

2234

01:48:56,340 --> 01:48:58,430

what happened in the
earliest phase of life.

2235

01:48:58,430 --> 01:48:59,950

So I just think it's fantastic

2236

01:48:59,950 --> 01:49:02,765

that NIDA is planning, you

know, a study to start earlier.

2237

01:49:02,765 --> 01:49:05,620

And I would say that
something that, you know

2238

01:49:05,620 --> 01:49:08,704

often doesn't get as much
attention as maybe ideal

2239

01:49:08,704 --> 01:49:11,520

that some of these future
cohorts could be thinking

2240

01:49:11,520 --> 01:49:12,680

about are the enrichment

2241

01:49:12,680 --> 01:49:14,391

or those protective factors that you know

2242

01:49:14,391 --> 01:49:18,070

are good for all kids, but
particularly maybe helpful

2243

01:49:18,070 --> 01:49:22,150

for those who may be
experiencing other types

2244

01:49:22,150 --> 01:49:25,913

of environmental or social,
or physical challenges.

2245

01:49:29,106 --> 01:49:33,200

- Kaf, do you have the last word on this?

2246

01:49:33,200 --> 01:49:36,730

- Yeah, and I, I certainly
work with mice primarily,

2247

01:49:36,730 --> 01:49:38,510
so my framing is a little bit different,

2248
01:49:38,510 --> 01:49:40,238
but I, I will add to that.

2249
01:49:40,238 --> 01:49:43,000
I think there's an incredible
utility to not only thinking

2250
01:49:43,000 --> 01:49:45,690
about risk, but resilience as well

2251
01:49:45,690 --> 01:49:46,893
and protective factors, right?

2252
01:49:46,893 --> 01:49:49,500
It may be it may be the
case that if we start to

2253
01:49:49,500 --> 01:49:52,095
frame our enterprises
around protective factors

2254
01:49:52,095 --> 01:49:56,900
we may find things that we,
that can be generalizable and

2255
01:49:56,900 --> 01:50:00,259
in a causal way to protect
individuals against

2256
01:50:00,259 --> 01:50:05,259
the broader impacts of things
like racism that are generally

2257
01:50:05,980 --> 01:50:07,780
applied across groups and populations.

2258

01:50:07,780 --> 01:50:09,081
So, yeah, I, I second

2259
01:50:09,081 --> 01:50:11,993
the idea of protective
factors and resilience.

2260
01:50:13,480 --> 01:50:15,800
- Is that also addresses of a number

2261
01:50:15,800 --> 01:50:17,790
of questions we got in the, in the Q and A

2262
01:50:17,790 --> 01:50:21,900
about how to basically
apply what we're talking

2263
01:50:21,900 --> 01:50:24,360
about to prevention, not just treatment

2264
01:50:24,360 --> 01:50:25,760
or precision medicine.

2265
01:50:25,760 --> 01:50:30,760
I'm going to ask Will
how I'm doing on time,

2266
01:50:30,860 --> 01:50:33,103
because I'm terrible at that.

2267
01:50:34,330 --> 01:50:35,163
- We're good.

2268
01:50:35,163 --> 01:50:35,996
We've got about five minutes.

2269
01:50:35,996 --> 01:50:37,469
- Oh, excellent, thank you.

2270

01:50:37,469 --> 01:50:42,320

In terms of getting back
to some of the ideas

2271

01:50:42,320 --> 01:50:47,320

from yesterday about sort
a systems perspective

2272

01:50:47,449 --> 01:50:50,341

on some of the research we
do, I think a lot, for example

2273

01:50:50,341 --> 01:50:54,186

one might say that a lot of the research

2274

01:50:54,186 --> 01:50:58,080

or the perspective coming from
say basic research we do in

2275

01:50:58,080 --> 01:51:02,487

in non-human animals tends to
focus on group differences.

2276

01:51:02,487 --> 01:51:04,390

Basically we create groups

2277

01:51:04,390 --> 01:51:06,810

on the factors that we'd want to study and

2278

01:51:06,810 --> 01:51:08,110

or individual differences

2279

01:51:08,110 --> 01:51:10,140

basically individual
differences in response

2280

01:51:10,140 --> 01:51:13,188

to the factors that we've
imposed on the, on the animals,

2281

01:51:13,188 --> 01:51:17,945
but that doesn't actually take
into account large systems

2282

01:51:17,945 --> 01:51:21,517
and the, again, the, the role
they play in human health.

2283

01:51:21,517 --> 01:51:25,200
And I'm wondering what your
thoughts are on how we can,

2284

01:51:25,200 --> 01:51:27,114
that's a very, it's
almost a paradigm shift

2285

01:51:27,114 --> 01:51:28,710
to think about that.

2286

01:51:28,710 --> 01:51:32,350
And I'm wondering how
you, how you think maybe

2287

01:51:32,350 --> 01:51:35,230
we can do that in again,
in, in, in the realms

2288

01:51:35,230 --> 01:51:38,183
of science that don't typically
think about social systems?

2289

01:51:44,730 --> 01:51:46,090
- I really dislike silence,

2290

01:51:46,090 --> 01:51:49,320
so I'm just gonna, I'm just gonna jump in.

2291

01:51:49,320 --> 01:51:53,840

So I think this has to
come from the top down and

2292

01:51:53,840 --> 01:51:57,630
from the bottom up at, at
the same time, I, I have so

2293

01:51:57,630 --> 01:51:59,940
many wonderful colleagues
with the best intentions

2294

01:51:59,940 --> 01:52:00,909
in the world.

2295

01:52:00,909 --> 01:52:03,510
It's just not part of the way we think.

2296

01:52:03,510 --> 01:52:05,140
And, and it, it hasn't been part of

2297

01:52:05,140 --> 01:52:07,080
the way that I came up thinking.

2298

01:52:07,080 --> 01:52:09,200
As a clinical neuropsychologist, you know

2299

01:52:09,200 --> 01:52:12,380
the focus is on all right,
eliminating variance,

2300

01:52:12,380 --> 01:52:15,003
don't misclassify people,
don't call people impaired.

2301

01:52:15,003 --> 01:52:17,064
Let's try not to think about race.

2302

01:52:17,064 --> 01:52:19,040
You know, let's kind of

make it through this.

2303

01:52:19,040 --> 01:52:20,729

There, there is a paradigm shift happening

2304

01:52:20,729 --> 01:52:24,500

and hopefully more and more
colleagues will come along

2305

01:52:24,500 --> 01:52:26,300

and see the importance of this.

2306

01:52:26,300 --> 01:52:29,210

So having the great role
models, having a talk like this

2307

01:52:29,210 --> 01:52:33,060

put together, a hearing,
seeing Dr. Volkov's commitment

2308

01:52:33,060 --> 01:52:35,879

to this, having the leaders
across our studies commit

2309

01:52:35,879 --> 01:52:38,610

to making this at least something

2310

01:52:38,610 --> 01:52:41,110

that folks are aware of and reflect on,

2311

01:52:41,110 --> 01:52:42,250

it seems critical.

2312

01:52:42,250 --> 01:52:43,760

So this is where some of this training

2313

01:52:43,760 --> 01:52:46,080

comes in, that I think
Mo more and more of us

2314
01:52:46,080 --> 01:52:48,380
are experiencing in our universities

2315
01:52:48,380 --> 01:52:49,658
and our different systems, because I think

2316
01:52:49,658 --> 01:52:52,030
what's missing more than anything is just

2317
01:52:52,030 --> 01:52:54,656
folks having enough time
to educate themselves

2318
01:52:54,656 --> 01:52:57,345
about things that they
typically haven't had to learn

2319
01:52:57,345 --> 01:53:00,950
about or educate themselves
about in the past.

2320
01:53:00,950 --> 01:53:03,863
So, you know, more, more
knowledge and more learning.

2321
01:53:05,500 --> 01:53:06,720
- Thank you.

2322
01:53:06,720 --> 01:53:08,353
Natalie, could you jump in?

2323
01:53:11,020 --> 01:53:12,620
- Well, this is a hard question

2324
01:53:12,620 --> 01:53:14,900
for me because I'm an
epidemiologist working

2325

01:53:14,900 --> 01:53:18,780
with population-based human data.

2326

01:53:18,780 --> 01:53:23,780
And so systems very much are
part of that type of research,

2327

01:53:23,808 --> 01:53:26,877
the questions that I might
design and think about.

2328

01:53:26,877 --> 01:53:29,310
And I think that there
is a major challenge

2329

01:53:29,310 --> 01:53:33,100
for even with human research,

2330

01:53:33,100 --> 01:53:34,570
we may know theoretically

2331

01:53:34,570 --> 01:53:37,919
that our participants are
existing within these systems,

2332

01:53:37,919 --> 01:53:42,450
but empirically it can be
very difficult to connect

2333

01:53:42,450 --> 01:53:44,270
everything that we may know are part

2334

01:53:44,270 --> 01:53:46,070
of the patterns that we need,

2335

01:53:46,070 --> 01:53:48,170
we may describe with these, you know

2336

01:53:49,278 --> 01:53:50,930
limited data points that
are available to us.

2337
01:53:50,930 --> 01:53:53,930
So I think that we all
have a long way to go,

2338
01:53:53,930 --> 01:53:55,892
whether we're working with mice

2339
01:53:55,892 --> 01:53:58,740
or we're working with human data to really

2340
01:53:58,740 --> 01:54:00,608
link together these multiple factors

2341
01:54:00,608 --> 01:54:04,083
that are driving health
and health disparities.

2342
01:54:05,520 --> 01:54:07,784
- Yeah, and I'll just simply say,

2343
01:54:07,784 --> 01:54:10,816
systems are super important,

2344
01:54:10,816 --> 01:54:14,570
but we aren't always aware
of how much complexity

2345
01:54:14,570 --> 01:54:17,660
we need in the system to solve the problem

2346
01:54:17,660 --> 01:54:20,530
or the challenge that is fun of us.

2347
01:54:20,530 --> 01:54:23,390
Certainly it isn't indeed the

case that mice are not humans.

2348

01:54:23,390 --> 01:54:25,750

I tried to give my mice psychotherapy

2349

01:54:25,750 --> 01:54:26,930

and it didn't work very well.

2350

01:54:26,930 --> 01:54:28,587

The mouse didn't listen.

2351

01:54:28,587 --> 01:54:30,640

I was on the Metro once

2352

01:54:30,640 --> 01:54:32,670

and I saw a mouse running down the side.

2353

01:54:32,670 --> 01:54:34,840

It looked nothing like
my mouse in the lab.

2354

01:54:34,840 --> 01:54:37,150

It moves much more, much faster

2355

01:54:37,150 --> 01:54:39,510

and seemed a lot more dangerous.

2356

01:54:39,510 --> 01:54:41,749

So I can, I can, I can really appreciate

2357

01:54:41,749 --> 01:54:43,213

the difference, right?

2358

01:54:43,213 --> 01:54:45,340

A model is a model, right?

2359

01:54:45,340 --> 01:54:47,840

A paper airplane could

be a really great model

2360

01:54:47,840 --> 01:54:48,948
for lifting drag.

2361

01:54:48,948 --> 01:54:50,840
It might be a terrible model

2362

01:54:50,840 --> 01:54:53,270
for jet propulsion systems
or fuel consumption, right?

2363

01:54:53,270 --> 01:54:55,720
So I think we really have to understand

2364

01:54:55,720 --> 01:54:58,940
what our question is,
what we're interested in,

2365

01:54:58,940 --> 01:55:02,047
and then the best way to
use a model to target that.

2366

01:55:02,047 --> 01:55:03,965
And some things we might

2367

01:55:03,965 --> 01:55:07,574
it might not be the right
model to answer that question.

2368

01:55:07,574 --> 01:55:11,380
I think that something
that I've appreciated

2369

01:55:11,380 --> 01:55:14,510
that there are a healthy group
of basic science researchers.

2370

01:55:14,510 --> 01:55:16,976

We certainly appreciate how to use a model

2371

01:55:16,976 --> 01:55:20,010
in the right way that
will ultimately teach us

2372

01:55:20,010 --> 01:55:22,230
about what we're seeing in the clinic.

2373

01:55:22,230 --> 01:55:23,870
And certainly there are
things that we can learn

2374

01:55:23,870 --> 01:55:24,877
about brain cells

2375

01:55:24,877 --> 01:55:26,780
and the electricity
that goes back and forth

2376

01:55:26,780 --> 01:55:29,370
across their membranes that
are absolutely applicable

2377

01:55:29,370 --> 01:55:32,653
to the work that we see
being done in humans as well.

2378

01:55:34,280 --> 01:55:37,660
– Thanks, I'll wrap up
here and I'll just wrap it

2379

01:55:37,660 --> 01:55:39,740
up by saying thanks to all the panelists,

2380

01:55:39,740 --> 01:55:41,810
thanks to the speakers earlier today

2381

01:55:41,810 --> 01:55:44,520

and, and a great discussion.

2382

01:55:44,520 --> 01:55:45,561

Thank you.

2383

01:55:45,561 --> 01:55:46,453

And, and I'll hand it back to Will.

2384

01:55:47,345 --> 01:55:48,380

- Holly, I will second that.

2385

01:55:48,380 --> 01:55:51,570

This was a phenomenal
session, thought provoking,

2386

01:55:51,570 --> 01:55:54,060

and I think it really got to the core

2387

01:55:54,060 --> 01:55:57,730

of the responsible integration
into basic science.

2388

01:55:57,730 --> 01:56:00,950

I mean, I think it was just,
just absolutely fantastic.

2389

01:56:00,950 --> 01:56:03,500

So I want to thank all the panelists.

2390

01:56:03,500 --> 01:56:06,650

I wanna thank Holly for that
great moderated session.

2391

01:56:06,650 --> 01:56:11,543

And so we will now break
and resume at 3:20.

2392

01:56:14,977 --> 01:56:19,380

- Okay, so it's now 3:20, at least

2393
01:56:19,380 --> 01:56:23,270
on the according to my computer clubs

2394
01:56:23,270 --> 01:56:25,533
to get started on the last session.

2395
01:56:25,533 --> 01:56:30,193
So what we are going to do is
we will have the last panel

2396
01:56:30,193 --> 01:56:34,820
and then we will have a few
final words that that Will

2397
01:56:34,820 --> 01:56:38,210
and I, we will have just
to close the session

2398
01:56:38,210 --> 01:56:39,410
at the end of the panel.

2399
01:56:40,470 --> 01:56:43,750
So I want to thank all the panelists

2400
01:56:43,750 --> 01:56:46,049
for agreeing to
participate this last hour.

2401
01:56:46,049 --> 01:56:48,746
This discussion session is priorities

2402
01:56:48,746 --> 01:56:51,900
for understanding the
biological impacts of racism

2403
01:56:51,900 --> 01:56:54,620
and how basic science
research can advance and

2404
01:56:54,620 --> 01:56:57,210
force store racial equity in health.

2405
01:56:57,210 --> 01:57:00,670
And so I want to introduce Meddy Rokia,

2406
01:57:00,670 --> 01:57:03,490
who has very kindly
agreed to be moderator.

2407
01:57:03,490 --> 01:57:06,090
So Meddy, whenever you're
ready, the floor is yours.

2408
01:57:08,108 --> 01:57:08,941
– Sure, thank you, Carlos.

2409
01:57:08,941 --> 01:57:10,568
And good afternoon, everyone.

2410
01:57:10,568 --> 01:57:12,357
Thanks for sticking around.

2411
01:57:12,357 --> 01:57:14,862
Welcome to the last panel

2412
01:57:14,862 --> 01:57:17,402
of this very exciting two-day symposium.

2413
01:57:17,402 --> 01:57:21,640
As Carlos mentioned, I'll
be moderating the session

2414
01:57:21,640 --> 01:57:22,870
and just a brief introduction.

2415
01:57:22,870 --> 01:57:26,533

I am a Staff Scientist at
the NIH Intramural Program

2416

01:57:26,533 --> 01:57:30,655
in the Translational
Addiction Medicine branch.

2417

01:57:30,655 --> 01:57:32,990
So I come from a little
bit different world

2418

01:57:32,990 --> 01:57:37,770
from most of the previous moderators.

2419

01:57:37,770 --> 01:57:39,820
I'm (indistinct) from world program

2420

01:57:39,820 --> 01:57:44,032
doing research at the NIH,
and we have four panelists.

2421

01:57:44,032 --> 01:57:47,610
I want to give them as
much time as possible,

2422

01:57:47,610 --> 01:57:51,380
so I'll do a very brief,
very, very brief introduction

2423

01:57:51,380 --> 01:57:53,260
just their names and their affiliations.

2424

01:57:53,260 --> 01:57:54,720
And I'm sure you can read

2425

01:57:54,720 --> 01:57:58,160
about their work on
their websites at bios.

2426

01:57:58,160 --> 01:58:01,310
So we have Dr. Gene Brody that you heard

2427
01:58:01,310 --> 01:58:02,920
from him this morning.

2428
01:58:02,920 --> 01:58:04,250
He is a Professor of Child

2429
01:58:04,250 --> 01:58:07,170
and Family Development
and Director of Center

2430
01:58:07,170 --> 01:58:10,203
for Family Research at
the University of Georgia.

2431
01:58:10,203 --> 01:58:15,203
And we, then we have Dr. Tali
Barron, who is a Professor

2432
01:58:15,608 --> 01:58:20,608
of Pediatrics, Anatomy, and Neurobiology

2433
01:58:20,950 --> 01:58:23,902
and Neurology at the University
of California, in Irvine.

2434
01:58:23,902 --> 01:58:26,750
We have Dr. John Lu Cadet

2435
01:58:26,750 --> 01:58:30,650
from Intramural Research
Program is a Senior Investigator

2436
01:58:30,650 --> 01:58:32,900
at the NIH IRP.

2437
01:58:32,900 --> 01:58:35,678

And finally, we have Dr. Rowan Palmer,

2438

01:58:35,678 --> 01:58:38,832

who is Assistant Professor of Psychology

2439

01:58:38,832 --> 01:58:41,343

at Emory University.

2440

01:58:43,090 --> 01:58:44,360

And as Carlos mentioned,

2441

01:58:44,360 --> 01:58:46,970

I think this panel builds really nicely

2442

01:58:46,970 --> 01:58:48,288

on the previous panel.

2443

01:58:48,288 --> 01:58:51,550

There will probably be
some overlap, but here

2444

01:58:51,550 --> 01:58:55,300

what we really want to
focus on is the priorities

2445

01:58:55,300 --> 01:58:58,217

for understanding the
biological impacts of racism

2446

01:58:58,217 --> 01:59:03,217

and how basic research can help us advance

2447

01:59:04,670 --> 01:59:06,763

the efforts toward racial equity.

2448

01:59:08,010 --> 01:59:09,390

With that...

2449

01:59:09,390 --> 01:59:11,920
We, we did have some
questions from the panelists,

2450
01:59:11,920 --> 01:59:14,730
so I'm going to start
with the first question

2451
01:59:14,730 --> 01:59:17,960
and these are just umbrella
questions to brainstorm.

2452
01:59:17,960 --> 01:59:21,060
And again, I'll try to speak as least

2453
01:59:21,060 --> 01:59:24,110
as possible and let the panelists talk.

2454
01:59:24,110 --> 01:59:27,410
So the first question
that we had, we brought

2455
01:59:27,410 --> 01:59:30,555
to the panelists is how
can we more effectively

2456
01:59:30,555 --> 01:59:34,910
study the biological impacts
of racism and whether

2457
01:59:34,910 --> 01:59:38,690
or how they may play a role in
substance use and addiction?

2458
01:59:38,690 --> 01:59:41,540
And again, this may tie to
some of our other questions,

2459
01:59:41,540 --> 01:59:44,340
but for the first

question, I know Dr. Barron

2460

01:59:44,340 --> 01:59:47,497
had some slides that she
wanted to start with.

2461

01:59:47,497 --> 01:59:48,935
(crosstalk)

2462

01:59:48,935 --> 01:59:50,570
- I'll take that, Meddie.

2463

01:59:50,570 --> 01:59:52,060
Thank you so very much.

2464

01:59:52,060 --> 01:59:53,867
I think one can really sort
of rephrase the question

2465

01:59:53,867 --> 01:59:56,750
a little bit is what is the role

2466

01:59:56,750 --> 02:00:00,740
of basic science and
particularly as it is defined

2467

02:00:00,740 --> 02:00:03,580
in terms of the use of perhaps
experimental animal models

2468

02:00:03,580 --> 02:00:07,880
and really helping us
understand the biological impact

2469

02:00:07,880 --> 02:00:10,290
of racism on at the potential

2470

02:00:10,290 --> 02:00:13,220
the vulnerability for

substance use disorder?

2471

02:00:13,220 --> 02:00:16,100

Now, this has been an amazing meeting

2472

02:00:16,100 --> 02:00:20,560

and we've heard quite a bit
through the use of anthropology

2473

02:00:20,560 --> 02:00:24,993

and economics and other
remarkable disciplines

2474

02:00:24,993 --> 02:00:29,168

about the societal aspects of racism.

2475

02:00:29,168 --> 02:00:31,978

Perhaps we should bring
up evolutionary biology

2476

02:00:31,978 --> 02:00:35,159

to really introduce the biological aspect

2477

02:00:35,159 --> 02:00:37,440

that we're dealing with here.

2478

02:00:37,440 --> 02:00:39,250

So throughout evolution

2479

02:00:39,250 --> 02:00:42,480

I think going all the way
from tadpoles to humans

2480

02:00:42,480 --> 02:00:45,024

when there is adversity such as that

2481

02:00:45,024 --> 02:00:49,282

which is generated by racism,
be it emotional or biological,

2482

02:00:49,282 --> 02:00:52,257

there is a response and adaptation

2483

02:00:52,257 --> 02:00:56,135

and that response and adaptation
is crucial for survival,

2484

02:00:56,135 --> 02:00:57,619

but also has a price.

2485

02:00:57,619 --> 02:01:00,430

Perhaps an example would be that, you know

2486

02:01:00,430 --> 02:01:04,260

it's the spadefoot toad

2487

02:01:04,260 --> 02:01:07,610

or whatever that lives
in puddles in the desert.

2488

02:01:07,610 --> 02:01:10,695

And when the puddles began to dry up,

2489

02:01:10,695 --> 02:01:14,390

there is a growth expelled
acceleration of the tadpoles

2490

02:01:14,390 --> 02:01:16,620

and they're really mature
and they can survive

2491

02:01:16,620 --> 02:01:18,892

and overcome and become toads,

2492

02:01:18,892 --> 02:01:23,600

and deal with that
stressful adverse situation.

2493
02:01:23,600 --> 02:01:25,230
But there's a price to pay the smaller,

2494
02:01:25,230 --> 02:01:27,960
the don't reproduce
very well, and they die.

2495
02:01:27,960 --> 02:01:30,580
And that diameter and that principle

2496
02:01:30,580 --> 02:01:32,020
I think really tells us something

2497
02:01:32,020 --> 02:01:35,373
about the biology of the
consequences of racism.

2498
02:01:35,373 --> 02:01:39,198
And of course, there is
a whole other complexity

2499
02:01:39,198 --> 02:01:41,670
of where it's coming from,

2500
02:01:41,670 --> 02:01:44,728
avoiding it, eliminating
it, mitigating it.

2501
02:01:44,728 --> 02:01:47,090
And I think we need to
embrace the complexity

2502
02:01:47,090 --> 02:01:48,990
at the same time that we really look

2503
02:01:48,990 --> 02:01:51,720
at the biological consequences
that we need to deal

2504
02:01:51,720 --> 02:01:54,490
with and address and study and understand.

2505
02:01:54,490 --> 02:01:57,760
And that may be the
power of basic science.

2506
02:01:57,760 --> 02:02:01,820
I will now really perhaps share the screen

2507
02:02:01,820 --> 02:02:05,091
and really aim to discuss
a little bit about the kind

2508
02:02:05,091 --> 02:02:10,091
of questions that we can
ask using basic science,

2509
02:02:10,300 --> 02:02:12,690
and the kind of questions
that we should not ask,

2510
02:02:12,690 --> 02:02:15,895
clearly going into either the human psyche

2511
02:02:15,895 --> 02:02:19,740
or trying to understand
systematic and systemic

2512
02:02:19,740 --> 02:02:22,810
and societal factors
using experimental animals

2513
02:02:22,810 --> 02:02:25,910
may not be the most
appropriate question to ask.

2514
02:02:25,910 --> 02:02:26,743
But that question is

2515

02:02:26,743 --> 02:02:29,280

that we must understand
that we need to understand.

2516

02:02:29,280 --> 02:02:33,210

And particularly that may
pertain to the consequences

2517

02:02:33,210 --> 02:02:35,352

and the means by which an individual

2518

02:02:35,352 --> 02:02:40,352

at whatever stage of life
perceives the emotional end

2519

02:02:41,444 --> 02:02:46,444

or biological and physical
aspects of feeling unwanted

2520

02:02:48,825 --> 02:02:53,825

or being physically or
emotionally attacked, if you will.

2521

02:02:54,472 --> 02:02:57,950

So if we want to understand
how early life stress

2522

02:02:57,950 --> 02:03:00,769

or adversity as defined by
our system impacts the brain

2523

02:03:00,769 --> 02:03:03,690

and important time to
focus on is early in life

2524

02:03:03,690 --> 02:03:05,140

because this is

2525

02:03:05,140 --> 02:03:07,130
during sensitive periods
that were well-described

2526
02:03:07,130 --> 02:03:08,340
for different types of brains

2527
02:03:08,340 --> 02:03:11,350
and brain sequence and
modalities, and region,

2528
02:03:11,350 --> 02:03:13,219
this is a particularly important time.

2529
02:03:13,219 --> 02:03:17,210
And we need to realize here
that there is no dichotomy

2530
02:03:17,210 --> 02:03:20,140
between biology, if you will, and society,

2531
02:03:20,140 --> 02:03:23,780
because in humans is
really impacted by both.

2532
02:03:23,780 --> 02:03:27,380
Physical and emotional adversity,

2533
02:03:27,380 --> 02:03:29,020
which is what we're seeing here

2534
02:03:29,020 --> 02:03:33,490
in this Hispanic kid at
the border is one way

2535
02:03:33,490 --> 02:03:35,760
in which the brain is
being impacted together

2536

02:03:35,760 --> 02:03:37,080
with the rest of the body.

2537
02:03:37,080 --> 02:03:38,920
And that may lead to vulnerability

2538
02:03:38,920 --> 02:03:41,250
to many different disorders,

2539
02:03:41,250 --> 02:03:42,788
potentially also to substance use.

2540
02:03:42,788 --> 02:03:44,490
I mean, again, that this type

2541
02:03:44,490 --> 02:03:47,112
of adversity has been
linked to diabetes, obesity,

2542
02:03:47,112 --> 02:03:49,890
what have you, and the question here

2543
02:03:49,890 --> 02:03:52,720
on the table is whether it
affects the vulnerability

2544
02:03:52,720 --> 02:03:54,948
that propensity to substance
use disorders as well.

2545
02:03:54,948 --> 02:03:57,358
There is also the fact that

2546
02:03:57,358 --> 02:04:00,366
in most approximate
source of sensory signals

2547
02:04:00,366 --> 02:04:03,730
to the developing brain

comes in from the caretaker,

2548

02:04:03,730 --> 02:04:06,517

oftentimes, the mother, and the adversity

2549

02:04:06,517 --> 02:04:10,340

and the stress and the other consequences

2550

02:04:10,340 --> 02:04:15,340

of dealing with social economical
difficulties and racism

2551

02:04:15,570 --> 02:04:20,164

and what have you, really
impact the behavior

2552

02:04:20,164 --> 02:04:23,650

the overall life of the caretaker.

2553

02:04:23,650 --> 02:04:27,370

And these may very well get
transmitted to the child.

2554

02:04:27,370 --> 02:04:29,420

And the question is, do
they, is this important?

2555

02:04:29,420 --> 02:04:31,330

Do we need to study it?

2556

02:04:31,330 --> 02:04:33,500

One can model it and experimental animals.

2557

02:04:33,500 --> 02:04:36,691

And again, what I'm showing
you here is simulated poverty.

2558

02:04:36,691 --> 02:04:40,130

When you have a poor resource environment

2559

02:04:40,130 --> 02:04:43,240

in which you can see
which you can generate

2560

02:04:43,240 --> 02:04:44,700

and grow individuals

2561

02:04:44,700 --> 02:04:47,210

of whatever background
you'd like for genetics.

2562

02:04:47,210 --> 02:04:49,604

So eliminate that simply impose that.

2563

02:04:49,604 --> 02:04:51,770

But then when you look at the behavior

2564

02:04:51,770 --> 02:04:54,130

of the parent in this
particular case and the wrote it

2565

02:04:54,130 --> 02:04:56,290

it's the mother, that is imposed

2566

02:04:56,290 --> 02:04:59,291

upon that is generated through that,

2567

02:04:59,291 --> 02:05:02,430

if you will, societal situation
or assimilation poverty.

2568

02:05:02,430 --> 02:05:07,020

You see massive effects
on the behavior of the dam

2569

02:05:07,020 --> 02:05:10,720

and the nurturing that the
dam will provide to the pups.

2570

02:05:10,720 --> 02:05:14,030

In this particular case,
the behavior is fragmented

2571

02:05:14,030 --> 02:05:17,033

and unpredictable, and the
outcome that one can see

2572

02:05:17,033 --> 02:05:22,033

if you only have that nature,
oh, if you have also the dam

2573

02:05:22,070 --> 02:05:25,000

the behavior consequences, you can see

2574

02:05:25,000 --> 02:05:28,590

that you are going to get
a different type of outcome

2575

02:05:28,590 --> 02:05:32,050

particularly as it pertains
to substance use disorder.

2576

02:05:32,050 --> 02:05:36,300

So animal and basic
science can provide models

2577

02:05:36,300 --> 02:05:39,490

that can answer some questions
that also allow you to go

2578

02:05:39,490 --> 02:05:42,058

into the brain and not deal
with it as a black box,

2579

02:05:42,058 --> 02:05:44,216

but really understand how things happen.

2580

02:05:44,216 --> 02:05:46,519
And of course, complex behaviors such

2581
02:05:46,519 --> 02:05:50,638
as pleasure and reward and
the propensity, perhaps

2582
02:05:50,638 --> 02:05:55,638
for substance use disorder
driven by brain circuits, sorry.

2583
02:05:55,865 --> 02:05:59,920
And we can visualize
structurally differences

2584
02:05:59,920 --> 02:06:03,436
in brain circuits that are
directly causally related

2585
02:06:03,436 --> 02:06:05,370
to that particular type

2586
02:06:05,370 --> 02:06:07,780
of early life adversity
that I described to you.

2587
02:06:07,780 --> 02:06:11,220
And whereas we see here
are some structural changes

2588
02:06:11,220 --> 02:06:13,100
that you can see in brain circuits,

2589
02:06:13,100 --> 02:06:15,210
we can also learn from
a Dr. Dzirasa's work,

2590
02:06:15,210 --> 02:06:18,930
that there are functional differences

2591
02:06:18,930 --> 02:06:21,300
in electrical circuits within the brain.

2592
02:06:21,300 --> 02:06:24,740
So this is a question that
we can address, namely

2593
02:06:24,740 --> 02:06:28,910
what might be the mechanism
at molecular at gene level,

2594
02:06:28,910 --> 02:06:31,560
at or epigenetic level, at cellular level,

2595
02:06:31,560 --> 02:06:36,103
at network level that the
consequences of racism

2596
02:06:37,310 --> 02:06:40,444
and other adversities early in life have

2597
02:06:40,444 --> 02:06:43,920
and how they get
propagated and how they get

2598
02:06:43,920 --> 02:06:48,920
I would say imprinted or how
the generate potential issues

2599
02:06:51,290 --> 02:06:52,780
at these different levels,

2600
02:06:52,780 --> 02:06:56,420
including behaviors that may be analogous

2601
02:06:56,420 --> 02:06:59,637
to those involved in
substance use disorders.

2602
02:06:59,637 --> 02:07:02,270
The second question that I think we really

2603
02:07:02,270 --> 02:07:03,103
do need to look at

2604
02:07:03,103 --> 02:07:04,980
and I was a little
surprised and perhaps missed

2605
02:07:04,980 --> 02:07:09,980
in this tremendous
conference is how do stress

2606
02:07:10,930 --> 02:07:15,160
and adversity generated
by a variety of issues,

2607
02:07:15,160 --> 02:07:17,590
and racism is prominent among them,

2608
02:07:17,590 --> 02:07:20,810
impact the brain specifically
and differentially

2609
02:07:20,810 --> 02:07:23,990
in men and women, in male
and female, in boys and girls

2610
02:07:23,990 --> 02:07:28,430
and perhaps promote sex
dependent vulnerability

2611
02:07:28,430 --> 02:07:29,650
to substance use disorder?

2612
02:07:29,650 --> 02:07:32,120
And this is a critically
important question because we know

2613

02:07:32,120 --> 02:07:36,120
from a variety of epidemiological
and other types of studies

2614

02:07:36,120 --> 02:07:38,964
throughout the world, that
the massive sex differences

2615

02:07:38,964 --> 02:07:43,964
among users of different
substances, including heroin

2616

02:07:44,380 --> 02:07:46,400
and including in the
current opioid epidemic.

2617

02:07:46,400 --> 02:07:48,680
And it was mentioned
earlier in this meeting

2618

02:07:48,680 --> 02:07:52,960
that whereas progress is
being made in some population,

2619

02:07:52,960 --> 02:07:54,038
particularly white population,

2620

02:07:54,038 --> 02:07:58,490
in mitigating the opioid
crisis, such focus may not

2621

02:07:58,490 --> 02:08:01,779
be being made as much
in other populations.

2622

02:08:01,779 --> 02:08:06,080
So is there, how do we get to that?

2623

02:08:06,080 --> 02:08:08,610
Clearly, we're dealing
with societal issues

2624
02:08:08,610 --> 02:08:11,130
that distinguish men and women,

2625
02:08:11,130 --> 02:08:13,110
but there's also fundamental differences

2626
02:08:13,110 --> 02:08:14,977
in the female and the male brain.

2627
02:08:14,977 --> 02:08:19,060
And indeed, if we plot
that, if we model that, and

2628
02:08:19,060 --> 02:08:23,950
if we look at how early life
adversity and what I've shown

2629
02:08:23,950 --> 02:08:26,960
you influences selectively,
and specifically,

2630
02:08:26,960 --> 02:08:30,080
and differentially, the
male and the female brain,

2631
02:08:30,080 --> 02:08:34,610
we replicate what we see in the
immunological human studies.

2632
02:08:34,610 --> 02:08:37,718
And we begin to get a
sense into mechanism.

2633
02:08:37,718 --> 02:08:39,280
So what I'm showing you here

2634
02:08:39,280 --> 02:08:41,630
that after the early life adversity

2635
02:08:41,630 --> 02:08:44,850
in a female brain, although there's not

2636
02:08:44,850 --> 02:08:49,590
a particularly increased
propensity to engage in the amount

2637
02:08:49,590 --> 02:08:52,470
of opioids that can be
used, there is a very

2638
02:08:52,470 --> 02:08:56,230
significant increase in
the time to extinction.

2639
02:08:56,230 --> 02:09:01,230
And when the opportunity
arises by cues to engage again,

2640
02:09:02,380 --> 02:09:06,680
to reinstate the use
of opioid drugs, again,

2641
02:09:06,680 --> 02:09:09,978
there is a market increase
in the interaction

2642
02:09:09,978 --> 02:09:13,205
of early life adversity
and the step of cues

2643
02:09:13,205 --> 02:09:15,800
such that an exposure to early life

2644
02:09:15,800 --> 02:09:18,694
as adversity increases the

probability of reinstatement.

2645

02:09:18,694 --> 02:09:22,530

All of that is seen in
female and not seen in male.

2646

02:09:22,530 --> 02:09:25,510

Again, suggesting that
the experimental approach,

2647

02:09:25,510 --> 02:09:28,610

the animal models, can
replicate or at least create

2648

02:09:28,610 --> 02:09:31,330

a situation that is similar
to the human situation

2649

02:09:31,330 --> 02:09:35,910

that's providing massively
powerful tools to

2650

02:09:35,910 --> 02:09:38,780

use modern technology and
try to understand that.

2651

02:09:38,780 --> 02:09:40,597

So these are the kinds of
questions that we can ask.

2652

02:09:40,597 --> 02:09:43,150

There are clearly questions
that we cannot ask,

2653

02:09:43,150 --> 02:09:44,887

but we can look at causality.

2654

02:09:44,887 --> 02:09:48,360

And I think that is
something that a controlled

2655

02:09:48,360 --> 02:09:50,840
rapid experimental models can do,

2656

02:09:50,840 --> 02:09:53,300
and we can understand the brain mechanism.

2657

02:09:53,300 --> 02:09:58,060
So the point I'm trying to
make is that the complexity of

2658

02:09:58,060 --> 02:10:01,153
the impact of racism and its consequences

2659

02:10:01,153 --> 02:10:04,213
on substance use disorder is immense.

2660

02:10:04,213 --> 02:10:07,560
There is no way or a
single way in which we're

2661

02:10:07,560 --> 02:10:08,650
going to get into it.

2662

02:10:08,650 --> 02:10:12,501
I think the idea is that we
need to do all of them and we

2663

02:10:12,501 --> 02:10:16,590
need to choose the questions
that are appropriate for each

2664

02:10:16,590 --> 02:10:19,789
model and absolutely embrace
the complexity and move forward

2665

02:10:19,789 --> 02:10:24,789
from the societal and biological
perspectives at the same

2666

02:10:25,860 --> 02:10:29,120

time and come up with
therapies that the molecular

2667

02:10:29,120 --> 02:10:31,540

approaches and the cyclical
approaches in animals

2668

02:10:31,540 --> 02:10:33,300

can share with us.

2669

02:10:33,300 --> 02:10:37,283

So that was what I was hoping
to share with the group.

2670

02:10:38,710 --> 02:10:39,813

- Great, thank you so much.

2671

02:10:39,813 --> 02:10:42,320

That was a fantastic start.

2672

02:10:42,320 --> 02:10:44,530

I think building a really great foundation

2673

02:10:44,530 --> 02:10:45,490

for our conversation.

2674

02:10:45,490 --> 02:10:48,990

Does any, I don't have
any particular over there.

2675

02:10:48,990 --> 02:10:51,224

Any of the other panelists want to jump in

2676

02:10:51,224 --> 02:10:54,720

give their opinion or respond

2677

02:10:54,720 --> 02:10:56,283
to what Dr. Barron mentioned?

2678
02:10:58,585 --> 02:11:01,570
- So I want to address what
actually mentioned some

2679
02:11:01,570 --> 02:11:04,725
of the COVID some of the
stuff that I, I wanted to say,

2680
02:11:04,725 --> 02:11:06,547
but I think the first step

2681
02:11:06,547 --> 02:11:09,759
towards doing anything is to recognize

2682
02:11:09,759 --> 02:11:13,430
that racism does have an impact.

2683
02:11:13,430 --> 02:11:16,100
I mean, we have to stop office caring

2684
02:11:16,100 --> 02:11:19,850
about the fact that
this is a real issue and

2685
02:11:19,850 --> 02:11:22,162
that the best to wing back
to what we were talking about

2686
02:11:22,162 --> 02:11:27,162
ancestry, African ancestry does
matter in the United States.

2687
02:11:29,070 --> 02:11:30,714
There's no avoiding that fact.

2688
02:11:30,714 --> 02:11:33,260

So once we come to that point,

2689

02:11:33,260 --> 02:11:38,260

we can then start asking
questions like the one Dr. Barron,

2690

02:11:38,733 --> 02:11:41,580

in her slide presentation
about how do these about

2691

02:11:41,580 --> 02:11:46,336

how does racism impact biological markers?

2692

02:11:46,336 --> 02:11:51,336

And I was very enthusiastic
about Dr. Barron's

2693

02:11:51,870 --> 02:11:55,160

talk earlier, because
that also covers some

2694

02:11:55,160 --> 02:11:58,410

of the issues that I have in my little

2695

02:11:58,410 --> 02:12:02,537

with my comments here.

2696

02:12:02,537 --> 02:12:06,448

So in, since racism is a stress disorder,

2697

02:12:06,448 --> 02:12:11,448

we can then focus on
newer hormonal effects

2698

02:12:13,252 --> 02:12:18,252

that are being seen in
stress-induced disorders.

2699

02:12:18,520 --> 02:12:23,500

Okay, so stress causes physical
and psychological disease

2700

02:12:23,500 --> 02:12:26,540
including substance use disorder,

2701

02:12:26,540 --> 02:12:28,370
so that those are known facts.

2702

02:12:28,370 --> 02:12:30,400
So there's no reason to believe

2703

02:12:30,400 --> 02:12:34,162
that racism is not going
to be doing the same thing.

2704

02:12:34,162 --> 02:12:39,162
So after we simply coined
this stress induced act

2705

02:12:39,250 --> 02:12:42,880
versus induced stress
disorders to cover all

2706

02:12:42,880 --> 02:12:45,820
of the different psychological

2707

02:12:45,820 --> 02:12:49,950
and medical issues that we can
see, including shorten labs

2708

02:12:49,950 --> 02:12:54,950
spend one of the previous
presenters talked about lifespan

2709

02:12:56,981 --> 02:13:01,330
in Baltimore City, where
I'm located, and you can go

2710

02:13:01,330 --> 02:13:05,930
from zip code to zip code
and base on who lives there

2711
02:13:05,930 --> 02:13:08,230
you can predict that there's going to be

2712
02:13:08,230 --> 02:13:10,940
most of the people are
gonna die around 60.

2713
02:13:10,940 --> 02:13:13,102
And if you go to the next

2714
02:13:13,102 --> 02:13:16,630
the people are living till the 80, 90.

2715
02:13:16,630 --> 02:13:19,080
So this is in, does have an impact.

2716
02:13:19,080 --> 02:13:21,790
I think when we want
to study racism impact

2717
02:13:21,790 --> 02:13:22,910
on substance abuse,

2718
02:13:22,910 --> 02:13:27,900
we should include scales that
have been validated instead is

2719
02:13:27,900 --> 02:13:32,170
of racism, black, the
racial microaggression has,

2720
02:13:32,170 --> 02:13:34,340
so those are very important.

2721
02:13:34,340 --> 02:13:38,410

And I was hoping that
the CDs, the ABCD study

2722
02:13:38,410 --> 02:13:40,040
would have included some of those.

2723
02:13:40,040 --> 02:13:41,657
I don't know if they do or not.

2724
02:13:42,650 --> 02:13:47,580
And I think those type of
studies, including scale

2725
02:13:47,580 --> 02:13:52,580
of microaggression would have to identify

2726
02:13:52,750 --> 02:13:57,750
specific changes that
insult, racist insult

2727
02:13:59,590 --> 02:14:03,070
can cause in given individual.

2728
02:14:03,070 --> 02:14:05,220
The other thing I should
like to mention is

2729
02:14:06,508 --> 02:14:08,930
that there are differences
between acute stress

2730
02:14:08,930 --> 02:14:10,231
and chronic stress.

2731
02:14:10,231 --> 02:14:14,370
And I think it's important that
we look at those issues when

2732
02:14:14,370 --> 02:14:19,054

we look at okay, an acute
setting, what does that do

2733

02:14:19,054 --> 02:14:24,054
to biological markers and
the chronic stress of living

2734

02:14:25,355 --> 02:14:30,355
in certain area with food
deprivation, what does that do

2735

02:14:30,671 --> 02:14:35,671
to the biological markers
that we thinking of?

2736

02:14:40,116 --> 02:14:41,690
Now from today, if I may just say,

2737

02:14:41,690 --> 02:14:42,970
first of all, thank you very much

2738

02:14:42,970 --> 02:14:44,700
for bringing up those issues.

2739

02:14:44,700 --> 02:14:48,210
I think the complexity, even
if we use the word stress

2740

02:14:48,210 --> 02:14:51,690
as a perhaps mediator for a race, being

2741

02:14:51,690 --> 02:14:54,317
the biological impact of
racism is, is amazing.

2742

02:14:54,317 --> 02:14:57,090
Because one thing that is
very clear, particularly

2743

02:14:57,090 --> 02:15:00,012
if you look at specific
phases of life and you add sex

2744
02:15:00,012 --> 02:15:04,470
and you add ancestry, as
you said, is that there is

2745
02:15:04,470 --> 02:15:07,280
no simple things such as neuroendocrine

2746
02:15:07,280 --> 02:15:09,610
or a very simple hormonal effect.

2747
02:15:09,610 --> 02:15:13,198
It looks like as the brain
keeps on moving and developing

2748
02:15:13,198 --> 02:15:17,320
in different trajectories
and different velocities,

2749
02:15:17,320 --> 02:15:22,090
different ages will add
particular processes,

2750
02:15:22,090 --> 02:15:25,180
different circuits we'll develop
a two different timeframe.

2751
02:15:25,180 --> 02:15:29,340
So even if we consider
that as stress sort of

2752
02:15:29,340 --> 02:15:33,190
as a overarching board,
which it may very well be,

2753
02:15:33,190 --> 02:15:36,270
it employs many, many neurotransmitters

2754

02:15:36,270 --> 02:15:38,992
or neuromodulators and
working on specific circuits

2755

02:15:38,992 --> 02:15:40,893
and a different timeframes,

2756

02:15:40,893 --> 02:15:43,860
and interacting with again, genes

2757

02:15:43,860 --> 02:15:45,512
and ancestry as we heard from Kaf.

2758

02:15:45,512 --> 02:15:50,512
So the complexity is rather
large, and I think you

2759

02:15:50,720 --> 02:15:54,280
absolutely right, also that we
need to look at the duration

2760

02:15:54,280 --> 02:15:57,440
and not just duration per
se, but what the timing

2761

02:15:57,440 --> 02:15:58,760
of the duration is.

2762

02:15:58,760 --> 02:16:01,130
So I think your point is well
taken, and these are many

2763

02:16:01,130 --> 02:16:02,671
of the different questions
that should be addressed

2764

02:16:02,671 --> 02:16:07,263
to really understand

the impact in humans and

2765

02:16:07,263 --> 02:16:10,520
in biological models that
can then allow you to look

2766

02:16:10,520 --> 02:16:14,650
at mechanism of the consequences
of racism on the brain.

2767

02:16:14,650 --> 02:16:16,800
So thank you, thank
you for enriching that.

2768

02:16:17,880 --> 02:16:20,363
- I'd like to add a cautionary note.

2769

02:16:23,710 --> 02:16:28,324
In some of our work, we
identify young people

2770

02:16:28,324 --> 02:16:33,324
who were growing up in very
challenging circumstances

2771

02:16:33,930 --> 02:16:37,090
and who never the less are resilient,

2772

02:16:37,090 --> 02:16:38,536
what we call resilient.

2773

02:16:38,536 --> 02:16:42,000
So they they're doing well in school.

2774

02:16:42,000 --> 02:16:43,845
They're not using drugs.

2775

02:16:43,845 --> 02:16:46,660
They they're very planful.

2776
02:16:46,660 --> 02:16:49,500
They show lots of future orientation.

2777
02:16:49,500 --> 02:16:51,370
And as we follow them

2778
02:16:53,830 --> 02:16:58,620
they look resilient by all
of our conventional markers,

2779
02:16:58,620 --> 02:17:02,930
but when we start looking
at biomarkers underneath

2780
02:17:02,930 --> 02:17:06,173
it looks like they're becoming ill.

2781
02:17:07,080 --> 02:17:10,948
They have high levels of
circulating cytokines.

2782
02:17:10,948 --> 02:17:15,663
They have high levels of
epinephrine, norepinephrine.

2783
02:17:17,590 --> 02:17:21,232
They are more likely to
develop type two diabetes

2784
02:17:21,232 --> 02:17:25,700
and other people in other labs

2785
02:17:25,700 --> 02:17:29,094
around the nation have
found the same thing.

2786
02:17:29,094 --> 02:17:32,200
So we're replicating this effect.

2787

02:17:32,200 --> 02:17:37,200

So in essence, what we're
finding is a group of people who,

2788

02:17:38,280 --> 02:17:40,530

a group of children, and we follow them

2789

02:17:40,530 --> 02:17:45,260

until they're young adults who look great.

2790

02:17:45,260 --> 02:17:47,923

We might want our own
children to look that way,

2791

02:17:47,923 --> 02:17:51,770

but because they've had to work so hard

2792

02:17:51,770 --> 02:17:55,230

and persist and not take their foot

2793

02:17:55,230 --> 02:17:59,570

off the gas pedal, biologically, they're

2794

02:17:59,570 --> 02:18:01,185

they're not looking well.

2795

02:18:01,185 --> 02:18:03,690

And so we thought, you know

2796

02:18:03,690 --> 02:18:07,330

maybe this was a specific effect from two

2797

02:18:07,330 --> 02:18:11,630

of our samples and subsequent to our work,

2798

02:18:11,630 --> 02:18:15,210

now in a national sample

and four other samples

2799

02:18:15,210 --> 02:18:18,700
from around the country
are finding similar things.

2800

02:18:18,700 --> 02:18:22,055
So my cautionary note is you can get

2801

02:18:22,055 --> 02:18:27,055
to a health inequality
through a different route

2802

02:18:28,310 --> 02:18:32,740
than simply exposure
to social determinants.

2803

02:18:32,740 --> 02:18:37,740
Now, these people have a
single-minded desire to succeed.

2804

02:18:39,757 --> 02:18:44,757
And because of that, they don't
use drugs, but we don't know

2805

02:18:45,790 --> 02:18:49,150
as they get older and
they've had to grapple

2806

02:18:49,150 --> 02:18:54,150
with racial discrimination
on their way to success,

2807

02:18:54,450 --> 02:18:55,590
they've had to grapple

2808

02:18:55,590 --> 02:18:59,220
with alienation on their route to success.

2809

02:18:59,220 --> 02:19:03,880
We don't know how they're
going to fair later on

2810
02:19:03,880 --> 02:19:06,770
and whether or not, despite their lack

2811
02:19:06,770 --> 02:19:09,875
their lack of drug use, later on, they may

2812
02:19:09,875 --> 02:19:11,800
they may start to self-medicate.

2813
02:19:11,800 --> 02:19:14,560
We don't know, but we
do know they have lots

2814
02:19:14,560 --> 02:19:17,950
of cardio-metabolic risk
factors that they've developed

2815
02:19:17,950 --> 02:19:20,023
over 10 or 15 years.

2816
02:19:22,870 --> 02:19:25,768
- Oh sorry, Gene, go ahead, Gene.

2817
02:19:25,768 --> 02:19:28,050
- Great point, Gene and I,

2818
02:19:28,050 --> 02:19:30,360
and I think one of the things
we need to recognize is

2819
02:19:30,360 --> 02:19:32,950
that there are multiple
factors that are associated

2820
02:19:32,950 --> 02:19:35,235

with different levels of racism,

2821

02:19:35,235 --> 02:19:37,630

and the effects that
we're trying to get out

2822

02:19:37,630 --> 02:19:41,010

of the behaviors or could
affect substance use initiation

2823

02:19:41,010 --> 02:19:42,850

and development in different ways, fixing

2824

02:19:42,850 --> 02:19:44,840

that it might not necessarily
be the presentation

2825

02:19:44,840 --> 02:19:47,560

of substance use as you point
out Gene, but other forms

2826

02:19:47,560 --> 02:19:51,330

of psychopathology, perhaps
internalizing which dimensions

2827

02:19:51,330 --> 02:19:54,143

or versus externalizing that
could manifest in young kids.

2828

02:19:54,143 --> 02:19:58,998

And it could be also that
how a person responds to

2829

02:19:58,998 --> 02:20:03,998

being the stressor that is
racism, could differ depending

2830

02:20:04,330 --> 02:20:06,081

upon the level of the, of how

2831

02:20:06,081 --> 02:20:08,573

how racism presents to
them in their society.

2832

02:20:08,573 --> 02:20:10,740

Because we have different forms of racism.

2833

02:20:10,740 --> 02:20:12,819

We've got institutionalized
racism, personally

2834

02:20:12,819 --> 02:20:15,000

mediated racism, right?

2835

02:20:15,000 --> 02:20:16,615

So it can affect the kind

2836

02:20:16,615 --> 02:20:19,197

of assumptions about our
abilities and whether

2837

02:20:19,197 --> 02:20:22,940

or not we might adopt those
assumptions as an individual.

2838

02:20:22,940 --> 02:20:25,570

And once that begins
to happen, you know, we

2839

02:20:25,570 --> 02:20:28,620

we move on to acceptance
and then we might end

2840

02:20:28,620 --> 02:20:30,190

up portraying those types of behaviors.

2841

02:20:30,190 --> 02:20:32,060

And we think it's okay to act this way

2842

02:20:32,060 --> 02:20:33,140
because it's expected of us.

2843

02:20:33,140 --> 02:20:35,870
And so what we, I think it's important

2844

02:20:35,870 --> 02:20:39,100
for us to assess, you know,
racism it's impacted all

2845

02:20:39,100 --> 02:20:41,970
of these different
levels for the individual

2846

02:20:41,970 --> 02:20:43,907
for the society, the social
cultural environment,

2847

02:20:43,907 --> 02:20:47,149
and to look at how it could
be impacting the progression

2848

02:20:47,149 --> 02:20:49,770
through initiation and substance use,

2849

02:20:49,770 --> 02:20:52,272
but also the comorbid behaviors
that we know sometimes

2850

02:20:52,272 --> 02:20:55,602
you know, predated the
onset of substance use.

2851

02:20:55,602 --> 02:20:58,577
- I'd like to really echo what Rowan said

2852

02:20:58,577 --> 02:21:00,808
and maybe add another
factor on that is something

2853

02:21:00,808 --> 02:21:04,060

that we oftentimes don't
do in animal studies.

2854

02:21:04,060 --> 02:21:06,250

And I was really nice to see the Kaf,

2855

02:21:06,250 --> 02:21:08,660

that net net is there is in addition

2856

02:21:08,660 --> 02:21:12,090

to ancestry and group
type differences that are

2857

02:21:12,090 --> 02:21:15,400

of course individual
differences in both the genome

2858

02:21:15,400 --> 02:21:17,820

and as Holly Moore brought
up in the epigenome.

2859

02:21:17,820 --> 02:21:22,540

So that I think how a given
individual will respond

2860

02:21:22,540 --> 02:21:27,540

to the same clear
objective, you know, racism,

2861

02:21:27,670 --> 02:21:28,765

racism related stress.

2862

02:21:28,765 --> 02:21:30,600

I mean, because I think it will happen

2863

02:21:30,600 --> 02:21:33,180

in both scenarios, is dependent

2864
02:21:33,180 --> 02:21:37,014
to a large degree on his or her genes.

2865
02:21:37,014 --> 02:21:39,580
So I think that that is
something that we need

2866
02:21:39,580 --> 02:21:42,747
to consider again, is there
perhaps a genetic commonality

2867
02:21:42,747 --> 02:21:44,583
to the group of youngsters,

2868
02:21:44,583 --> 02:21:48,670
the gene that you found
are doing really well

2869
02:21:48,670 --> 02:21:49,714
but pay the price.

2870
02:21:49,714 --> 02:21:52,020
And the other aspects that I was hoping to

2871
02:21:52,020 --> 02:21:54,436
share when we had the, the caretaker

2872
02:21:54,436 --> 02:21:58,950
as the buffer to the
developing brain is they

2873
02:21:58,950 --> 02:22:02,280
although we think that someone is exposed

2874
02:22:02,280 --> 02:22:05,676
to the same degree of
insult racism or other,

2875

02:22:05,676 --> 02:22:09,617
they may not necessarily be
because there is a buffer

2876

02:22:09,617 --> 02:22:13,210
of aspects of society that protects them.

2877

02:22:13,210 --> 02:22:16,326
And that, that again is
difficult to model, but feasible.

2878

02:22:16,326 --> 02:22:21,326
So I think the complexity
is really a word that I

2879

02:22:21,680 --> 02:22:24,940
think would need to turn
into almost a mantra in terms

2880

02:22:24,940 --> 02:22:27,710
of if realizing that the
many, many different factors

2881

02:22:27,710 --> 02:22:29,726
and we should take them one

2882

02:22:29,726 --> 02:22:31,785
at a time and then aim to integrate them

2883

02:22:31,785 --> 02:22:34,185
and take them back to,
you know, the human study

2884

02:22:35,334 --> 02:22:37,070
and the clinical studies
that are being done.

2885

02:22:37,070 --> 02:22:37,903
But we have to figure them out,

2886
02:22:37,903 --> 02:22:39,650
and we have to figure out the mechanism

2887
02:22:39,650 --> 02:22:40,700
because there may very well

2888
02:22:40,700 --> 02:22:43,130
be other different molecular targets

2889
02:22:43,130 --> 02:22:46,300
and different potential measures

2890
02:22:46,300 --> 02:22:48,650
of intervention and
prevention to address them.

2891
02:22:51,097 --> 02:22:54,210
- Well, I think, I think
I'm glad that Dr. Woody

2892
02:22:54,210 --> 02:22:56,444
brought up the issue of resilience

2893
02:22:56,444 --> 02:23:00,720
because I guess a Pinterest talk a talker

2894
02:23:00,720 --> 02:23:03,663
about that also in a paper
that I would a few years ago

2895
02:23:03,663 --> 02:23:07,486
I stress the impact of resilience

2896
02:23:07,486 --> 02:23:12,486
because what happens
often, I've been guilty

2897

02:23:13,050 --> 02:23:17,168
of this myself, is to
pathologize black lives

2898
02:23:17,168 --> 02:23:20,780
instead of thinking, in
terms of other factors

2899
02:23:20,780 --> 02:23:25,240
in that environment can
serve as protective factors.

2900
02:23:25,240 --> 02:23:26,760
So we talk about that.

2901
02:23:26,760 --> 02:23:28,886
So when we're doing biological studies

2902
02:23:28,886 --> 02:23:32,580
and I think when we start
seeing changes that are

2903
02:23:32,580 --> 02:23:36,570
very similar between groups
that are resilient, that not

2904
02:23:36,570 --> 02:23:39,020
we need to start thinking
about, okay, what are

2905
02:23:39,020 --> 02:23:44,020
other markers that can be
used to detect resilience and

2906
02:23:44,757 --> 02:23:48,340
and try to connect that

2907
02:23:48,340 --> 02:23:51,890
to the clinical manifestation
that we're seeing?

2908

02:23:51,890 --> 02:23:53,910

The other thing I think

I should bring up is

2909

02:23:53,910 --> 02:23:57,680

that under this certain

condition, and I think one, what

2910

02:23:57,680 --> 02:24:02,680

that up also, is the fact that

we can have other psychiatry

2911

02:24:03,141 --> 02:24:08,141

manifestation of racism is not

just job use, but depression.

2912

02:24:11,050 --> 02:24:12,480

There was a nice paper published

2913

02:24:12,480 --> 02:24:16,380

I guess last year,

showing us that successful

2914

02:24:16,380 --> 02:24:19,780

black men, specifically, have suffered

2915

02:24:19,780 --> 02:24:22,561

from major affective disorders,

2916

02:24:22,561 --> 02:24:27,561

who've really been exposed

to repeated insult.

2917

02:24:29,900 --> 02:24:32,336

Not a kid insult, but repeated in

2918

02:24:32,336 --> 02:24:35,460

when this is installed over time.

2919

02:24:35,460 --> 02:24:36,560

So when we look

2920

02:24:36,560 --> 02:24:39,000

when you're looking at those populations,

2921

02:24:39,000 --> 02:24:43,810

is it possible to actually
dissect that substance use

2922

02:24:43,810 --> 02:24:47,400

some other psychiatric disorders or

2923

02:24:47,400 --> 02:24:49,500

and use the cytokine markers,

2924

02:24:49,500 --> 02:24:51,310

which are very important I think,

2925

02:24:51,310 --> 02:24:54,988

to that may be they're
protective, they're protected

2926

02:24:54,988 --> 02:24:58,620

against substance use
that they're not protected

2927

02:24:58,620 --> 02:25:00,763

against other psychiatric disease.

2928

02:25:04,370 --> 02:25:05,510

- Yeah, taking...

2929

02:25:05,510 --> 02:25:06,850

These are all great points

2930

02:25:06,850 --> 02:25:10,700

taking the discussion to kind
of, I think the next level

2931
02:25:10,700 --> 02:25:14,031
especially being the last session is just

2932
02:25:14,031 --> 02:25:19,031
wanting to get some thoughts
on how really the research

2933
02:25:20,040 --> 02:25:24,930
on biological impacts of
racism can advance efforts

2934
02:25:24,930 --> 02:25:26,700
to our racial equity and health.

2935
02:25:26,700 --> 02:25:29,330
I think this is a very important topic.

2936
02:25:29,330 --> 02:25:32,160
So like, let's say we

2937
02:25:32,160 --> 02:25:36,790
we do answer all these questions
that will never happen,

2938
02:25:36,790 --> 02:25:41,790
but then how this knowledge
on biological impact

2939
02:25:41,800 --> 02:25:46,270
of racism can really help us reach

2940
02:25:46,270 --> 02:25:50,847
or move toward racial equity in general?

2941
02:25:50,847 --> 02:25:53,600
- I think there's two issues here

2942

02:25:53,600 --> 02:25:55,720
and they might be
helpful to separate them.

2943

02:25:55,720 --> 02:25:58,450
One is the issue of NIDA,

2944

02:25:58,450 --> 02:26:02,427
namely the notion of
substance use disorder.

2945

02:26:02,427 --> 02:26:06,370
Is there a role for racism
in substance use disorder?

2946

02:26:06,370 --> 02:26:08,070
If so, what is it?

2947

02:26:08,070 --> 02:26:10,920
What is societal, biological,
how do they interact?

2948

02:26:10,920 --> 02:26:13,520
And if we understand
it, can we prevent it?

2949

02:26:13,520 --> 02:26:18,150
The other issue is racial equity

2950

02:26:18,150 --> 02:26:21,638
and equality and lack of
discrimination in the workforce,

2951

02:26:21,638 --> 02:26:24,853
in the scientific community, and

2952

02:26:24,853 --> 02:26:28,570
in a view of the world in

general, in a, you know

2953

02:26:28,570 --> 02:26:31,174
in systems, in organization
in this country?

2954

02:26:31,174 --> 02:26:33,500
And these are two very different ones,

2955

02:26:33,500 --> 02:26:34,942
two very different questions.

2956

02:26:34,942 --> 02:26:38,530
I am struggling with trying to understand

2957

02:26:38,530 --> 02:26:41,670
how basic mechanism of the impact

2958

02:26:41,670 --> 02:26:45,210
of racism on the brain can take us

2959

02:26:45,210 --> 02:26:48,527
from the biology to the organizational

2960

02:26:48,527 --> 02:26:53,201
and systematic way that we
need to eliminate racism with?

2961

02:26:53,201 --> 02:26:55,771
I think there may be a
little bit of a disconnect.

2962

02:26:55,771 --> 02:26:59,860
The up thinks that basic science can do

2963

02:26:59,860 --> 02:27:03,780
and things that we should
learn from and say, yes,

2964
02:27:03,780 --> 02:27:06,213
there is a very clear biological effect,

2965
02:27:06,213 --> 02:27:10,740
a very significant and severe
impact on brain development,

2966
02:27:10,740 --> 02:27:13,410
on the propensity for
substance use disorder.

2967
02:27:13,410 --> 02:27:16,010
And therefore we need to
do something to prevent it.

2968
02:27:16,010 --> 02:27:17,833
But these are separate questions.

2969
02:27:17,833 --> 02:27:20,200
Nora, I'd love to hear
from you about that.

2970
02:27:20,200 --> 02:27:22,810
- Yeah, I know I've thought
about it a lot because I think

2971
02:27:22,810 --> 02:27:25,685
that basic science provides
us a very powerful tool

2972
02:27:25,685 --> 02:27:29,050
and I've been obsessed about it with all

2973
02:27:29,050 --> 02:27:31,917
of the data that's
coming up with the ABCD.

2974
02:27:31,917 --> 02:27:35,438
And to me, we have an answer

that is very powerful.

2975

02:27:35,438 --> 02:27:38,840

And, and so as you look at the ABCD data

2976

02:27:38,840 --> 02:27:40,366

you come to realize that many

2977

02:27:40,366 --> 02:27:44,810

of the differences in ethnic
groups are basically driven

2978

02:27:44,810 --> 02:27:47,218

by low-income, neighborhood deprivation.

2979

02:27:47,218 --> 02:27:50,723

And then as you look
through it and the work

2980

02:27:50,723 --> 02:27:54,170

the elegant work that Gene
broadly has been doing,

2981

02:27:54,170 --> 02:27:57,470

including interventions
that prevent actually

2982

02:27:57,470 --> 02:28:01,380

by doing a very specific
target that education

2983

02:28:01,380 --> 02:28:04,380

to parents on how to
support their children

2984

02:28:04,380 --> 02:28:06,790

to actually engage them
better in school activities,

2985

02:28:06,790 --> 02:28:11,691
and how prevention programs
that allow those children

2986
02:28:11,691 --> 02:28:15,160
of underrepresented groups
to have high level education

2987
02:28:15,160 --> 02:28:18,300
so that they, when they
grow up, they actually

2988
02:28:18,300 --> 02:28:21,980
have higher income that protects
them, not just themselves

2989
02:28:21,980 --> 02:28:25,050
for addiction, but it also
protects their children.

2990
02:28:25,050 --> 02:28:27,470
So to me, are what I'm looking

2991
02:28:27,470 --> 02:28:30,400
at in terms of the ABC
data is documenting how

2992
02:28:30,400 --> 02:28:33,250
these adverse social
environments is negatively

2993
02:28:33,250 --> 02:28:34,917
impacting the brain of children

2994
02:28:34,917 --> 02:28:36,540
and their performance.

2995
02:28:36,540 --> 02:28:37,900
And those intervention,

2996

02:28:37,900 --> 02:28:42,900
why don't we provide a high
level, high quality, and patient

2997

02:28:43,510 --> 02:28:47,725
and the support to do that
to children that are coming

2998

02:28:47,725 --> 02:28:48,558
from these underrepresented groups.

2999

02:28:48,558 --> 02:28:51,291
I think that this is a targeted
intervention that research

3000

02:28:51,291 --> 02:28:55,858
on basic neuro imaging
is speaking loudly too.

3001

02:28:55,858 --> 02:28:58,580
So that, that's why I immediately
saw that and said yes,

3002

02:28:58,580 --> 02:29:02,763
this is a way that we can have
a target that intervention.

3003

02:29:05,299 --> 02:29:10,171
- But Nora, even that answer,
no, is not really focusing

3004

02:29:10,171 --> 02:29:14,720
on the bad optical
markers that we're seeing.

3005

02:29:14,720 --> 02:29:17,722
So I had the similar
answer to that question.

3006

02:29:17,722 --> 02:29:22,083
The answer is the intervention
at the level of school.

3007
02:29:22,083 --> 02:29:25,680
Those kids need to be provided

3008
02:29:25,680 --> 02:29:30,304
with better food, better
school, better education system.

3009
02:29:30,304 --> 02:29:34,760
And they need to be
anti-racist work done together

3010
02:29:34,760 --> 02:29:37,300
with their teachers
because the vast majority

3011
02:29:37,300 --> 02:29:40,170
of those schools are
going to school where they

3012
02:29:40,170 --> 02:29:43,425
have white teachers who
might be punishing them

3013
02:29:43,425 --> 02:29:48,350
much more severely than
their white counterparts.

3014
02:29:48,350 --> 02:29:50,500
The literature is very clear about that.

3015
02:29:50,500 --> 02:29:52,774
So those kinds of intervention, I think

3016
02:29:52,774 --> 02:29:56,945
are the ones that NIDA
need to needs to support

3017

02:29:56,945 --> 02:30:01,945

in order to decrease the
prevalence of substance use

3018

02:30:02,526 --> 02:30:06,420

in that population that
we're talking about.

3019

02:30:06,420 --> 02:30:08,892

But again, I think it's very important

3020

02:30:08,892 --> 02:30:13,892

that we take into consideration
resilience of other kids

3021

02:30:14,890 --> 02:30:19,890

and not pathologize then
so much the assessed

3022

02:30:21,920 --> 02:30:23,903

or background of those children.

3023

02:30:24,930 --> 02:30:27,747

- Yeah, no, I agree, but they
are not exclusionary, John Lu.

3024

02:30:27,747 --> 02:30:30,690

And the other issue to me is
that when we start to look

3025

02:30:31,604 --> 02:30:33,740

at biological differences
between individuals

3026

02:30:33,740 --> 02:30:35,550

we recognize them as very important.

3027

02:30:35,550 --> 02:30:37,993

And I think that the
example of that Dr. Dzirasa,

3028

02:30:39,691 --> 02:30:41,640
he gave in terms of how
between strains of mice,

3029

02:30:41,640 --> 02:30:44,860
you see differences on how
the blood brain barrier

3030

02:30:44,860 --> 02:30:48,690
allows is functioning allows
entry of one drug or the other.

3031

02:30:48,690 --> 02:30:51,920
So there's tremendous diversity
that we need to address

3032

02:30:51,920 --> 02:30:54,208
in order to personalize interventions.

3033

02:30:54,208 --> 02:30:56,590
And when we're speaking
of African-Americans

3034

02:30:56,590 --> 02:31:00,020
as everybody knows, that
diversity is enormous.

3035

02:31:00,020 --> 02:31:03,530
So it's just, if we want
to understand biology to

3036

02:31:03,530 --> 02:31:05,753
optimize outcomes for everyone,
some might have higher risk

3037

02:31:05,753 --> 02:31:09,056
for breast cancer because

of this or that team.

3038

02:31:09,056 --> 02:31:14,056
It, it, it, this actually has
an element that, that, that is

3039

02:31:14,062 --> 02:31:19,004
in some ways distinct or a
certain extent of the racial

3040

02:31:19,004 --> 02:31:21,200
the racism that we observe.

3041

02:31:21,200 --> 02:31:22,890
The racism is impacting

3042

02:31:22,890 --> 02:31:25,690
because you are putting
it as an enormous stressor

3043

02:31:25,690 --> 02:31:28,970
that no matter what their
biological background, sorry

3044

02:31:28,970 --> 02:31:30,520
it's putting you at a disadvantage.

3045

02:31:30,520 --> 02:31:35,034
So I like to think about
interventions where also

3046

02:31:35,034 --> 02:31:39,610
as a society can do something
that changes things.

3047

02:31:39,610 --> 02:31:44,447
I mean, to me, that's urgent
then based on that data

3048

02:31:44,447 --> 02:31:49,447
and the work that Gene Brody
and others have been doing

3049
02:31:49,500 --> 02:31:51,840
on what prevention interventions work

3050
02:31:51,840 --> 02:31:55,980
on their underrepresented
groups, I think the issue is how

3051
02:31:55,980 --> 02:32:00,280
do we implement them and how
do we overcome that resistance

3052
02:32:00,280 --> 02:32:02,660
to implement it, and how do we overcome

3053
02:32:02,660 --> 02:32:04,930
that their own willingness
to put resources?

3054
02:32:04,930 --> 02:32:08,380
So that's where I, that's
why I don't mean to it

3055
02:32:08,380 --> 02:32:10,390
but completely agree, (indistinct)

3056
02:32:10,390 --> 02:32:12,988
that there are other aspects that

3057
02:32:12,988 --> 02:32:15,620
on what is the biology of resilience.

3058
02:32:15,620 --> 02:32:18,360
It's extraordinary,
interesting, and important.

3059

02:32:18,360 --> 02:32:20,280
So I'm not disagreeing,

3060
02:32:20,280 --> 02:32:22,787
I just think that they
are not exclusionary.

3061
02:32:25,338 --> 02:32:26,510
- And Dr. Brody or Palmer,

3062
02:32:26,510 --> 02:32:28,433
did you want to comment on this topic?

3063
02:32:30,930 --> 02:32:35,930
- So, you know, I, I have
a foot in two worlds.

3064
02:32:36,320 --> 02:32:41,150
One world is I look at etiology

3065
02:32:41,150 --> 02:32:45,549
and study things like how
stressful events like racism

3066
02:32:45,549 --> 02:32:50,549
impact inflammatory responses
and change neuro structures.

3067
02:32:51,340 --> 02:32:52,173
On the other hand, I,
I'm also very interested

3068
02:32:52,173 --> 02:32:56,992
in translating protective
factors that deter drug use

3069
02:33:01,250 --> 02:33:03,647
and promote competence and development.

3070

02:33:03,647 --> 02:33:06,448
And, and so in my world

3071
02:33:06,448 --> 02:33:11,448
what I find in etiology
and the protective factors

3072
02:33:12,460 --> 02:33:15,240
in that world, which
keeps stress, I'll say

3073
02:33:15,240 --> 02:33:18,427
from getting under the
skin and into the brain

3074
02:33:18,427 --> 02:33:22,630
we try to translate into
new prevention programming

3075
02:33:22,630 --> 02:33:25,440
that will improve our
existing programming.

3076
02:33:25,440 --> 02:33:29,250
And so there's this
reciprocal influence process.

3077
02:33:29,250 --> 02:33:33,900
But right now we have
prevention programs that are 14

3078
02:33:33,900 --> 02:33:36,460
and 10 hours total, some

3079
02:33:36,460 --> 02:33:38,750
of which are being
disseminated in communities

3080
02:33:38,750 --> 02:33:42,253
around the country and, and

reaching black families.

3081

02:33:51,290 --> 02:33:53,935

- Yeah, Dr. Palmer, did
you have any comments

3082

02:33:53,935 --> 02:33:56,328

on that or should we
move to the next topic?

3083

02:33:56,328 --> 02:33:58,550

- No, I was just, I was just sitting here

3084

02:33:59,562 --> 02:34:00,764

know what Gene just said.

3085

02:34:00,764 --> 02:34:02,090

I mean, I don't particularly
work in that space,

3086

02:34:02,090 --> 02:34:04,672

but when we've been in my lab

3087

02:34:04,672 --> 02:34:08,000

my students and I have
been working to talk

3088

02:34:08,000 --> 02:34:11,332

with ways that we can empower young people

3089

02:34:11,332 --> 02:34:13,830

across colleges and universities.

3090

02:34:13,830 --> 02:34:17,139

So we know we're at risk
because it's a, it's a period

3091

02:34:17,139 --> 02:34:18,950

for high reuse of initiation

and experimentation.

3092

02:34:18,950 --> 02:34:22,120

And we think about how do we
empower those young people?

3093

02:34:22,120 --> 02:34:24,390

And then I think at the
same time, how do we do that

3094

02:34:24,390 --> 02:34:27,180

for communities that are even
great, more disadvantage?

3095

02:34:27,180 --> 02:34:29,560

And I think it's one
of the same thing here.

3096

02:34:29,560 --> 02:34:30,810

It's not as Gene's,

3097

02:34:30,810 --> 02:34:34,494

I think Nora's thing it's
we identify folks at need,

3098

02:34:34,494 --> 02:34:36,490

how do we educate them to be interested

3099

02:34:36,490 --> 02:34:39,280

in this kind of work and
empower them to get involved

3100

02:34:39,280 --> 02:34:42,320

and spread the same knowledge
back in their communities?

3101

02:34:42,320 --> 02:34:43,870

I think there's certainly a place here

3102

02:34:43,870 --> 02:34:46,840
for community-based participatory research

3103
02:34:46,840 --> 02:34:50,490
at a level where we, where we
can bring these young people,

3104
02:34:50,490 --> 02:34:52,070
so we can shift the culture,

3105
02:34:52,070 --> 02:34:54,770
get a movement started
because I think we sort

3106
02:34:54,770 --> 02:34:57,170
of need that grassroots
component to this as well.

3107
02:34:57,170 --> 02:35:00,785
- I want to bring up one other issue

3108
02:35:00,785 --> 02:35:03,130
and that is we've talking about prevention

3109
02:35:03,130 --> 02:35:06,340
and the idea of the racism, as you said

3110
02:35:06,340 --> 02:35:08,130
getting under the skin and into the brain

3111
02:35:08,130 --> 02:35:10,407
particularly early in life that promotes

3112
02:35:10,407 --> 02:35:12,746
substance use disorders.

3113
02:35:12,746 --> 02:35:17,746
But I think there's also a
strong need for basic science

3114

02:35:18,810 --> 02:35:22,540
and intervention to
look at what the effect

3115

02:35:22,540 --> 02:35:27,480
of actually using drug is
on the brain, on psychiatry

3116

02:35:27,480 --> 02:35:31,065
and getting into the vicious
cycle that we all know

3117

02:35:31,065 --> 02:35:33,806
and that Nora has written about so well.

3118

02:35:33,806 --> 02:35:37,760
And I don't, I mean, there's
clearly genetic differences,

3119

02:35:37,760 --> 02:35:39,920
there's clearly societal differences,

3120

02:35:39,920 --> 02:35:41,550
and there's clearly a combination of both

3121

02:35:41,550 --> 02:35:46,550
in terms of addressing
and mitigating drug use

3122

02:35:46,990 --> 02:35:51,990
in people who already are, you
know, helping someone quit,

3123

02:35:52,367 --> 02:35:55,026
helping someone not getting back on drugs.

3124

02:35:55,026 --> 02:35:58,810
And I don't know that

there's much known, you know

3125

02:35:58,810 --> 02:36:01,446
in terms of the genetic variables

3126

02:36:01,446 --> 02:36:06,100
and other variables that
determine what the effect

3127

02:36:06,100 --> 02:36:08,170
of drugs on the brain is

3128

02:36:08,170 --> 02:36:10,750
at the cellular level at the
molecular and cellular level

3129

02:36:10,750 --> 02:36:13,660
and particularly how we
translate that into intervention.

3130

02:36:13,660 --> 02:36:16,420
And I guess that that would
be an important study to

3131

02:36:16,420 --> 02:36:19,440
content area to continue to
study it is being studied,

3132

02:36:19,440 --> 02:36:20,953
but we do not have the answer.

3133

02:36:24,430 --> 02:36:27,790
– Yeah, I think that's a
good segue to basically one

3134

02:36:27,790 --> 02:36:32,390
of the next questions
that we had, that, what

3135

02:36:32,390 --> 02:36:35,370
what do you all think
should be the priority

3136
02:36:35,370 --> 02:36:38,975
of NIDA in terms of
basic research science?

3137
02:36:38,975 --> 02:36:42,830
So again, the topic is maybe looking

3138
02:36:42,830 --> 02:36:47,610
at basic research and what
do you think that basically

3139
02:36:47,610 --> 02:36:51,910
NIDA should prioritize to
address racial inequalities?

3140
02:36:51,910 --> 02:36:54,553
Again, in terms of basic research?

3141
02:36:56,228 --> 02:36:58,194
- I think I could take that one,

3142
02:36:58,194 --> 02:37:00,848
but this is very individual bias.

3143
02:37:00,848 --> 02:37:05,848
So there's evidence as
Dr. Lund mentioned before

3144
02:37:07,250 --> 02:37:12,250
that stress causes epigenetic changes,

3145
02:37:16,400 --> 02:37:20,830
whether it's acute or chronic
changes, chronic stress.

3146

02:37:20,830 --> 02:37:24,890
So I think NIDA should
spend a lots of money,

3147
02:37:24,890 --> 02:37:29,890
maybe more money on the issue
of what are, what does racists

3148
02:37:30,488 --> 02:37:35,488
into stress cause to
the epigenetic markers

3149
02:37:38,550 --> 02:37:42,787
in the blood in other cell systems

3150
02:37:42,787 --> 02:37:46,866
and how do those correlate

3151
02:37:46,866 --> 02:37:51,720
to manifestation of
substance use disorders?

3152
02:37:51,720 --> 02:37:52,900
I mean, I should say

3153
02:37:53,984 --> 02:37:57,380
that the use of drug
themselves is associated

3154
02:37:57,380 --> 02:37:59,231
with epigenetic markers changes.

3155
02:37:59,231 --> 02:38:04,231
So we would need to
dissociate the consequences

3156
02:38:05,166 --> 02:38:10,166
of racism from the consequences
of drug use itself.

3157

02:38:11,650 --> 02:38:16,650

I think that were really
collecting burn tissue

3158

02:38:18,400 --> 02:38:23,400

from a large population of
African American come in.

3159

02:38:25,000 --> 02:38:26,910

I mean, this has worked really well.

3160

02:38:26,910 --> 02:38:29,180

I'm in and the psychiatrists,

3161

02:38:29,180 --> 02:38:31,910

those approaches I've
worked really well from

3162

02:38:31,910 --> 02:38:33,780

for neurological disorders;

3163

02:38:33,780 --> 02:38:37,270

Multiple sclerosis, Parkinson's disease,

3164

02:38:37,270 --> 02:38:38,720

Alzheimer's disease,

3165

02:38:38,720 --> 02:38:41,216

having a large collection of brains

3166

02:38:41,216 --> 02:38:46,216

of how to decipher mechanism in terms

3167

02:38:46,530 --> 02:38:51,370

of the basic and associated
with some when pathologists.

3168

02:38:51,370 --> 02:38:54,295

So we could do the same
thing in terms of if we know

3169

02:38:54,295 --> 02:38:59,295
that racism can cause structural
changes in humans, okay?

3170

02:39:02,040 --> 02:39:05,500
It should be possible to follow these

3171

02:39:05,500 --> 02:39:08,100
humans are after and collect them when

3172

02:39:08,100 --> 02:39:12,760
after death and correlate
clinical manifestations

3173

02:39:13,600 --> 02:39:17,130
with epigenetic changes, gene expression,

3174

02:39:17,130 --> 02:39:20,293
putting expression in
various (indistinct) regions.

3175

02:39:21,540 --> 02:39:22,940
I mean, that, that decide showed

3176

02:39:22,940 --> 02:39:25,438
that picture of what's being done

3177

02:39:25,438 --> 02:39:29,639
with the brain at the Liver
Institute in Baltimore.

3178

02:39:29,639 --> 02:39:31,130
Those are, I think

3179

02:39:31,130 --> 02:39:34,950
at the kind of studies that

neither should support.

3180

02:39:34,950 --> 02:39:35,783

Thank you.

3181

02:39:39,110 --> 02:39:40,686

- I think it's a very difficult question.

3182

02:39:40,686 --> 02:39:44,290

Clearly, I think in the two days

3183

02:39:44,290 --> 02:39:49,290

of this conference, a large
number of issues were brought up

3184

02:39:49,430 --> 02:39:53,076

and many are really worthy of study.

3185

02:39:53,076 --> 02:39:55,226

In terms of basic science,

3186

02:39:55,226 --> 02:39:58,160

again, I completely
agree with the John Lu,

3187

02:39:58,160 --> 02:40:02,080

that prevention would be an
excellent place to start.

3188

02:40:02,080 --> 02:40:06,175

And therefore, I think
the idea of what does the

3189

02:40:06,175 --> 02:40:10,980

both direct quote unquote "stress" do

3190

02:40:10,980 --> 02:40:14,950

to the developing brain
and what is the mechanism

3191

02:40:14,950 --> 02:40:19,698
through which environment
interested in the brain,

3192

02:40:19,698 --> 02:40:22,370
but then realize the complexity
of time of development,

3193

02:40:22,370 --> 02:40:25,360
which cycle are involved,
what behaviors are tested,

3194

02:40:25,360 --> 02:40:28,630
and really tried to get in
biological, not just markers,

3195

02:40:28,630 --> 02:40:31,710
but perhaps it actually
biological mechanism.

3196

02:40:31,710 --> 02:40:33,760
Is there a change in opioid receptors?

3197

02:40:33,760 --> 02:40:37,120
Is there change in stress
related neuro-transmitters?

3198

02:40:37,120 --> 02:40:39,370
Is there change in dopaminergic system,

3199

02:40:39,370 --> 02:40:42,820
and what circulate, at what
pathway, at what projection?

3200

02:40:42,820 --> 02:40:47,820
And really look at the 21st
Century, you know, 2021,

3201

02:40:48,400 --> 02:40:53,330
2030 approaches that will
tell us what really happens

3202
02:40:53,330 --> 02:40:57,460
to specific portions of the
brain through specific circuits

3203
02:40:57,460 --> 02:41:00,497
by that type of quote, unquote, "emotional

3204
02:41:00,497 --> 02:41:02,930
"as well as physical" stressors,

3205
02:41:02,930 --> 02:41:06,406
and how what are the changes
that we can then weaponize

3206
02:41:06,406 --> 02:41:10,450
that we can then find
actionable, that we can target

3207
02:41:10,450 --> 02:41:15,050
with novel or existing
medications to try to intervene.

3208
02:41:15,050 --> 02:41:16,640
The other aspects that again,

3209
02:41:16,640 --> 02:41:21,340
I think should be looked at is
really trying to understand,

3210
02:41:21,340 --> 02:41:23,990
and again, both in human
studies, which is being done

3211
02:41:23,990 --> 02:41:27,115
but also on experimental models,
the intrinsic differences

3212
02:41:27,115 --> 02:41:30,900
and the plastic differences
that are influenced

3213
02:41:30,900 --> 02:41:34,940
by environment of brain
of a female and a male,

3214
02:41:34,940 --> 02:41:36,410
and really try to understand

3215
02:41:36,410 --> 02:41:40,505
if we can design approaches
that are particularly suitable

3216
02:41:40,505 --> 02:41:44,483
to women or girls and to men.

3217
02:41:44,483 --> 02:41:48,040
In that respect, Gene, are you finding

3218
02:41:48,040 --> 02:41:50,673
very significant sex
differences in your work?

3219
02:41:50,673 --> 02:41:53,210
- No, we, we, we have not.

3220
02:41:53,210 --> 02:41:55,373
Well, let me take that back.

3221
02:41:58,830 --> 02:42:00,450
Generally, we don't.

3222
02:42:00,450 --> 02:42:04,488
We found one I think,
very interesting one.

3223
02:42:04,488 --> 02:42:09,488
We followed up some of our
young people who participated

3224
02:42:10,960 --> 02:42:14,657
in a prevention program at age 11,

3225
02:42:14,657 --> 02:42:19,657
and at age 25, 14 years
later, the prevention program

3226
02:42:21,539 --> 02:42:24,360
and we actually hypothesized this,

3227
02:42:24,360 --> 02:42:26,128
so I yield to you on this.

3228
02:42:26,128 --> 02:42:30,918
We, we hypothesized that over time,

3229
02:42:30,918 --> 02:42:33,424
males would increase their drug use

3230
02:42:33,424 --> 02:42:38,424
and women would cope more
by eating than did men,

3231
02:42:41,350 --> 02:42:45,810
and the prevention program
at age 11, deterred increases

3232
02:42:45,810 --> 02:42:50,810
in drug use among men and
emotional eating among women.

3233
02:42:51,010 --> 02:42:55,743
So it was efficacious, but
on two different behaviors.

3234
02:42:58,013 --> 02:43:00,700
And I'll just, I'll just leave it there.

3235
02:43:00,700 --> 02:43:02,140
- Well as I've...

3236
02:43:02,140 --> 02:43:05,150
But we do not have time to see
the same dichotomy in terms

3237
02:43:05,150 --> 02:43:10,150
of craving of palatable food
versus drug use, you know

3238
02:43:10,290 --> 02:43:11,910
existed in animals as well.

3239
02:43:11,910 --> 02:43:13,910
So perhaps I'd rather than going

3240
02:43:13,910 --> 02:43:17,150
through a 14-hour massive intervention,

3241
02:43:17,150 --> 02:43:20,030
if you can find the magic
bullet that will prevent that,

3242
02:43:20,030 --> 02:43:22,450
that would be a very reasonable endeavor

3243
02:43:22,450 --> 02:43:24,623
to indulgent for NIDA.

3244
02:43:25,990 --> 02:43:26,823
- For sure.

3245
02:43:27,835 --> 02:43:30,070
Well, well, one of the things

that has become more clear

3246

02:43:30,070 --> 02:43:34,467

for me is that to coin a phrase, "It

3247

02:43:34,467 --> 02:43:37,172

"it takes a village to

do this work right."

3248

02:43:37,172 --> 02:43:41,470

So I have wonderful, wonderful colleagues,

3249

02:43:41,470 --> 02:43:43,420

some of whom are neuroscientists, some

3250

02:43:43,420 --> 02:43:48,420

of whom are immunologists,

and have great laboratories.

3251

02:43:50,506 --> 02:43:54,443

I have some colleagues who

are psychiatric geneticists,

3252

02:43:54,443 --> 02:43:58,960

some who are health psychologists,

and it, it, it takes all

3253

02:43:58,960 --> 02:44:03,960

of these points of view together

to get at different levels

3254

02:44:04,300 --> 02:44:06,781

of analysis from which you can start to

3255

02:44:06,781 --> 02:44:10,963

paint a picture that really

does inform prevention.

3256

02:44:14,280 --> 02:44:15,400

- I hear that question

3257

02:44:15,400 --> 02:44:17,550
as we were discussing all of these issues

3258

02:44:17,550 --> 02:44:21,319
because there's something that
I have certainly in my brain

3259

02:44:21,319 --> 02:44:22,820
it's been extraordinarily sensitive in

3260

02:44:22,820 --> 02:44:25,870
in our field of substance
use, where we show one

3261

02:44:25,870 --> 02:44:30,197
of the most devastating,
devastating components of racism,

3262

02:44:31,152 --> 02:44:35,120
and that is incarceration
of African-Americans.

3263

02:44:35,120 --> 02:44:37,400
And this is so very closely linked

3264

02:44:37,400 --> 02:44:39,125
and tied with withdrawals.

3265

02:44:39,125 --> 02:44:41,980
And so, as I was thinking about the notion

3266

02:44:41,980 --> 02:44:45,050
on how do we use basic
science and knowledge

3267

02:44:45,050 --> 02:44:50,050
to actually advance and overcome

adversity for minorities?

3268

02:44:51,551 --> 02:44:54,290

I mean, one of the ways that we can have

3269

02:44:54,290 --> 02:44:57,011

the highest impact is to
actually bring forward

3270

02:44:57,011 --> 02:45:01,680

a data and knowledge that
can help inform policy.

3271

02:45:01,680 --> 02:45:03,790

And in this respect, for example,

3272

02:45:03,790 --> 02:45:06,832

investigating adverse, horrific adverse

3273

02:45:06,832 --> 02:45:11,832

it is to isolate someone through
prison or jail in general,

3274

02:45:12,310 --> 02:45:16,738

but more if this is a
teenager or a drunk person,

3275

02:45:16,738 --> 02:45:20,593

jeopardizing their
outcomes into the future

3276

02:45:20,593 --> 02:45:24,300

and understanding actually
one could even do this,

3277

02:45:24,300 --> 02:45:27,246

I mean, in animal models,

3278

02:45:27,246 --> 02:45:30,988

how disruptive these ease as a practice.

3279

02:45:30,988 --> 02:45:35,001

So I think that that's
another aspect that we cannot

3280

02:45:35,001 --> 02:45:39,020

ignore when we're discussing
issues of racial differences

3281

02:45:39,020 --> 02:45:42,974

as it relates to outcomes on drug taking.

3282

02:45:42,974 --> 02:45:45,960

But also if you're taking drugs

3283

02:45:45,960 --> 02:45:50,093

you all end up in jail or
prison and from there on,

3284

02:45:50,093 --> 02:45:52,290

their trajectory has changed forever.

3285

02:45:52,290 --> 02:45:55,220

So I think this is another component

3286

02:45:55,220 --> 02:45:57,100

that we in the field need to

3287

02:45:57,100 --> 02:46:00,153

to very actively, proactively address.

3288

02:46:07,000 --> 02:46:08,010

- Yeah, Dr. Palmer,

3289

02:46:08,010 --> 02:46:11,313

did you have any comments on priorities?

3290

02:46:13,460 --> 02:46:16,290
– Yeah, you know, kind of
talked to some of the people

3291
02:46:16,290 --> 02:46:18,972
in my group and we came up
with some ideas and, you know

3292
02:46:18,972 --> 02:46:23,710
one of these was to as Nora
was suggesting, you know

3293
02:46:23,710 --> 02:46:26,650
careful monitoring with data
and substance use morbidity

3294
02:46:26,650 --> 02:46:29,290
and mortality in these
disproportionately report

3295
02:46:29,290 --> 02:46:31,200
or the groups that are at risk.

3296
02:46:31,200 --> 02:46:32,530
And as I mentioned earlier

3297
02:46:32,530 --> 02:46:35,838
just sort of this idea of,
you know, more emphasis

3298
02:46:35,838 --> 02:46:38,084
on community-based
partnership-type approaches, so

3299
02:46:38,084 --> 02:46:40,346
that we can assess the needs
in these types of communities

3300
02:46:40,346 --> 02:46:43,131
and think about developing

educational resources

3301

02:46:43,131 --> 02:46:46,010
that Gene and others are B testing

3302

02:46:46,010 --> 02:46:49,010
and applying them to develop policies,

3303

02:46:49,010 --> 02:46:52,860
and infrastructure that we can
use to combat systemic forms

3304

02:46:52,860 --> 02:46:55,840
of racism and oppression, that
we know create these, this

3305

02:46:55,840 --> 02:46:58,517
you know, these health
outcomes in these groups.

3306

02:46:58,517 --> 02:47:02,010
Another idea was to
support research related

3307

02:47:02,010 --> 02:47:04,940
to implicit bias training, right?

3308

02:47:04,940 --> 02:47:07,400
And so to the extent
that if we can look at

3309

02:47:07,400 --> 02:47:09,304
we can look at implicit bias

3310

02:47:09,304 --> 02:47:11,900
and the treatment and maintenance
of substance use disorders

3311

02:47:11,900 --> 02:47:14,450

and how implicit bias
training can actually

3312

02:47:14,450 --> 02:47:17,950
impact conditions and
their effectiveness, right?

3313

02:47:17,950 --> 02:47:20,250
So this idea of we can teach them

3314

02:47:20,250 --> 02:47:23,150
about the history of abuse
within the healthcare system,

3315

02:47:23,150 --> 02:47:25,658
that's actually led to
patients mistrust or distrust

3316

02:47:25,658 --> 02:47:29,241
of the healthcare system,
you know, do those type

3317

02:47:29,241 --> 02:47:33,129
would that kind of training
actually have an impact

3318

02:47:33,129 --> 02:47:37,400
and lead to improvement
in these disparities?

3319

02:47:37,400 --> 02:47:39,240
And the third was this idea of using

3320

02:47:39,240 --> 02:47:41,650
both qualitative and quantitative methods

3321

02:47:41,650 --> 02:47:44,300
to monitor the endemics of racial bias.

3322

02:47:44,300 --> 02:47:47,050
So this idea of, you know,
can we integrate assessment

3323
02:47:47,050 --> 02:47:49,330
of racial bias in, in
our core data systems?

3324
02:47:49,330 --> 02:47:52,760
I'm not sure how popular
this might be, but, you know

3325
02:47:52,760 --> 02:47:55,310
can we call upon OMB
for example, to require

3326
02:47:55,310 --> 02:47:58,965
that every agency or
federal collect racial data

3327
02:47:58,965 --> 02:48:01,340
and as a consequence
of that, you know, help

3328
02:48:01,340 --> 02:48:03,677
to create new data
systems that can monitor

3329
02:48:03,677 --> 02:48:05,780
the impact of racial bias?

3330
02:48:05,780 --> 02:48:07,320
I think one of the things for me as a

3331
02:48:07,320 --> 02:48:10,860
as a statistical geneticist,
is it's about being careful

3332
02:48:10,860 --> 02:48:14,808
about how we might, how measures

of ancestry might get used

3333

02:48:14,808 --> 02:48:18,620
in genomic studies to infer a risk.

3334

02:48:18,620 --> 02:48:21,156
And I think it's very
important that if one wants

3335

02:48:21,156 --> 02:48:24,610
wants to do that, that
it's done in the context

3336

02:48:24,610 --> 02:48:28,693
of the impact of, of racism
on the individual as well

3337

02:48:28,693 --> 02:48:31,770
as well as how a person
might self identify.

3338

02:48:31,770 --> 02:48:34,395
And we can't begin to ask
those kinds of questions

3339

02:48:34,395 --> 02:48:39,290
or interpret, you know,
things like genetic scores

3340

02:48:39,290 --> 02:48:43,370
and so on and so forth
without good, good data

3341

02:48:45,010 --> 02:48:45,973
or so lots of data.

3342

02:48:48,840 --> 02:48:50,283
- Right, yeah, thanks.

3343

02:48:51,570 --> 02:48:52,810
Really, really great points.

3344
02:48:52,810 --> 02:48:56,750
So we have almost seven
or eight minutes left.

3345
02:48:56,750 --> 02:48:58,338
I just wanted to open the floor,

3346
02:48:58,338 --> 02:49:01,240
give each panelist one or two minutes.

3347
02:49:01,240 --> 02:49:03,810
If, if they wanted to mention any point

3348
02:49:03,810 --> 02:49:06,980
that they didn't get the
chance or any other thing,

3349
02:49:06,980 --> 02:49:08,070
this is the last session.

3350
02:49:08,070 --> 02:49:11,873
So reflection on other
sessions that we had, or

3351
02:49:11,873 --> 02:49:14,130
that the questions that
we have were any other

3352
02:49:14,130 --> 02:49:16,357
topic you wanted to bring up.

3353
02:49:19,875 --> 02:49:21,690
– I'd love to bring up the
issue of transdisciplinary.

3354
02:49:21,690 --> 02:49:23,570

So again, everything I know
about drug addiction needs

3355
02:49:23,570 --> 02:49:25,090
from a collaboration with Steve Mahler

3356
02:49:25,090 --> 02:49:28,832
and other people who are
really experts in the field,

3357
02:49:28,832 --> 02:49:32,443
and we all bring different expertise

3358
02:49:34,870 --> 02:49:38,270
and background to the pot.

3359
02:49:38,270 --> 02:49:40,353
I think Gene, you just mentioned
that you takes a village.

3360
02:49:40,353 --> 02:49:42,983
And I think one thing
that I would recommend

3361
02:49:42,983 --> 02:49:44,950
that NIDA embraces, again, perhaps like

3362
02:49:44,950 --> 02:49:46,382
the Commy Center in NMH,

3363
02:49:46,382 --> 02:49:49,777
is the ability to create in the same place

3364
02:49:49,777 --> 02:49:52,655
multidisciplinary teams that go

3365
02:49:52,655 --> 02:49:55,110
and not necessarily the compromise

3366
02:49:55,110 --> 02:49:56,445
into animal research and human research,

3367
02:49:56,445 --> 02:50:00,230
but as we do in the Commy
center, we actually do both.

3368
02:50:00,230 --> 02:50:02,183
We can take a question across species.

3369
02:50:02,183 --> 02:50:05,810
We can take a question across disciplines.

3370
02:50:05,810 --> 02:50:07,160
We can look at the consequences,

3371
02:50:07,160 --> 02:50:08,800
for example, as you said, John Lu

3372
02:50:08,800 --> 02:50:11,850
of early life adversity
on the single cell,

3373
02:50:11,850 --> 02:50:14,810
on the epigenome, on the
single cell transcriptome

3374
02:50:14,810 --> 02:50:17,460
we then go and look at the
interaction between cells.

3375
02:50:17,460 --> 02:50:20,530
We then go map circuits,
we then look at behavior.

3376
02:50:20,530 --> 02:50:21,850
We then look at a variety

3377

02:50:21,850 --> 02:50:23,880
of different behaviors,
both cognitive, emotional

3378
02:50:23,880 --> 02:50:27,250
and those are related to
non-related to substance use

3379
02:50:27,250 --> 02:50:30,090
to really get a phenotype,
whether it's an animal and human,

3380
02:50:30,090 --> 02:50:34,320
we can then carry the
results of the results

3381
02:50:34,320 --> 02:50:37,770
of the question that arose in
the human back into the human

3382
02:50:37,770 --> 02:50:39,435
and look at intervention.

3383
02:50:39,435 --> 02:50:41,670
Just to give a very simple example,

3384
02:50:41,670 --> 02:50:45,160
I mean, we all have now
witnessing what COVID-19

3385
02:50:45,160 --> 02:50:47,115
is doing to everybody.

3386
02:50:47,115 --> 02:50:49,410
In our case, it was preschoolers.

3387
02:50:49,410 --> 02:50:52,150
We tested the hypothesis
that really preservation

3388
02:50:52,150 --> 02:50:56,043
of family support might be
a potential intervention.

3389
02:50:56,043 --> 02:50:58,750
And indeed, in a study that just came out

3390
02:50:58,750 --> 02:51:01,090
it appears to be the
case, that preservation

3391
02:51:01,090 --> 02:51:04,890
of family routines was the
most potent discriminant

3392
02:51:04,890 --> 02:51:07,540
between a variety of
psychological measures

3393
02:51:07,540 --> 02:51:10,650
and preschoolers exposed
to the stress of COVID,

3394
02:51:10,650 --> 02:51:11,843
and those who do not.

3395
02:51:11,843 --> 02:51:16,109
Again, bringing together
psychology animal studies

3396
02:51:16,109 --> 02:51:19,250
because we predicted it from
the animal model epidemiology

3397
02:51:19,250 --> 02:51:22,550
and an opportunity arose
by a terrible pandemic.

3398
02:51:22,550 --> 02:51:27,042

So to go back from this
example to the overall story,

3399

02:51:27,042 --> 02:51:32,042

I think that we are tackling
a very complex entity

3400

02:51:32,169 --> 02:51:35,190

and I think we clearly
need to move forward

3401

02:51:35,190 --> 02:51:37,803

with intervention, but also
need to really understand

3402

02:51:37,803 --> 02:51:40,856

that the impact on the brain,

3403

02:51:40,856 --> 02:51:42,716

substance use disorders and others,

3404

02:51:42,716 --> 02:51:46,680

so bringing together teams that have many

3405

02:51:46,680 --> 02:51:48,900

different disciplines
that can look at things

3406

02:51:48,900 --> 02:51:51,170

and inform the computational
approach when they put

3407

02:51:51,170 --> 02:51:52,280

the epidemiological approach and

3408

02:51:52,280 --> 02:51:54,100

from the basic science approach,

3409

02:51:54,100 --> 02:51:56,010

and suggesting that that be done

3410

02:51:56,010 --> 02:51:58,283

across species may be
an important way to go.

3411

02:52:01,311 --> 02:52:03,813

- So I would like to continue that thought

3412

02:52:03,813 --> 02:52:07,230

to include the fact that by doing things

3413

02:52:07,230 --> 02:52:09,880

in a multi disciplinary way,

3414

02:52:09,880 --> 02:52:14,880

we can actually join the next scientists,

3415

02:52:15,960 --> 02:52:18,500

especially increased by
increasing the number

3416

02:52:19,526 --> 02:52:22,220

of African-American
young scientists who come

3417

02:52:22,220 --> 02:52:27,220

into the field, because
those investigators

3418

02:52:27,620 --> 02:52:30,820

will have more easier time interacting

3419

02:52:30,820 --> 02:52:34,364

with communities such like on in Baltimore

3420

02:52:34,364 --> 02:52:37,180

because they are just like this.

3421
02:52:37,180 --> 02:52:38,180
I talk about the fact

3422
02:52:38,180 --> 02:52:41,900
that there are people who
within his family were suffering

3423
02:52:41,900 --> 02:52:44,330
from psychiatric disorder
that prompted them to

3424
02:52:45,900 --> 02:52:47,953
follow MD-PhD and go into
psychiatry to study this thing.

3425
02:52:47,953 --> 02:52:51,967
So by not only doing research related

3426
02:52:51,967 --> 02:52:56,670
to racism and, and epigenetic changes

3427
02:52:56,670 --> 02:53:01,670
but we can train people
who want to do that

3428
02:53:02,141 --> 02:53:04,073
their business going forward.

3429
02:53:09,595 --> 02:53:12,660
– Dr. Brody, any other last, last word?

3430
02:53:12,660 --> 02:53:14,053
Any other thoughts?

3431
02:53:15,472 --> 02:53:20,472
– Yes, I want to thank NIDA
for putting all this together.

3432

02:53:20,960 --> 02:53:25,347
I think you were able to
convene people who otherwise

3433
02:53:25,347 --> 02:53:28,930
wouldn't talk to one another
because they're either too busy

3434
02:53:28,930 --> 02:53:32,870
or it wasn't disciplinary enough.

3435
02:53:32,870 --> 02:53:36,260
And I, I think this was very
important for the field,

3436
02:53:36,260 --> 02:53:37,761
so I want to thank you.

3437
02:53:37,761 --> 02:53:40,740
- I'll echo that, very much so.

3438
02:53:41,994 --> 02:53:42,990
- Great, thank you.

3439
02:53:42,990 --> 02:53:44,790
- Oh, the thank you goes to you all.

3440
02:53:44,790 --> 02:53:49,332
Dr. Palmer, any other last
word or just giving you...

3441
02:53:49,332 --> 02:53:53,003
- No, no, very grateful to be here and...

3442
02:53:53,003 --> 02:53:56,650
- Great, well, thank you all so much.

3443
02:53:56,650 --> 02:53:59,330
With that, I, I know we are on time,

3444
02:53:59,330 --> 02:54:02,045
so I'll turn it over to Will and Carlos.

3445
02:54:02,045 --> 02:54:03,880
- Great, great.

3446
02:54:03,880 --> 02:54:05,840
Thank you, Meddie, thank you panel,

3447
02:54:05,840 --> 02:54:07,747
that was a fantastic discussion.

3448
02:54:07,747 --> 02:54:10,790
A lot to learn from that.

3449
02:54:10,790 --> 02:54:13,100
I think there was a
lot of recommendations,

3450
02:54:13,100 --> 02:54:16,241
clear recommendations on,
on, on points to consider

3451
02:54:16,241 --> 02:54:18,840
as we move the research agenda forward.

3452
02:54:18,840 --> 02:54:22,510
I think there are many
aspects of the discussion

3453
02:54:22,510 --> 02:54:25,520
over the last two days that
we need to really sit with,

3454
02:54:25,520 --> 02:54:29,350
think about how best to
integrate these recommendations

3455
02:54:29,350 --> 02:54:31,725
and moving it forward
in a significant way.

3456
02:54:31,725 --> 02:54:34,290
The recommendations, I
would say that took place

3457
02:54:34,290 --> 02:54:37,750
over the last two days
were not incremental

3458
02:54:37,750 --> 02:54:40,873
at any in any way, but these
were very transformative,

3459
02:54:40,873 --> 02:54:45,873
bold, thought provoking ways
of, of moving things forward

3460
02:54:45,950 --> 02:54:49,340
from a prevention standpoint,
all the way through treatment.

3461
02:54:49,340 --> 02:54:51,030
And, and that is the types

3462
02:54:51,030 --> 02:54:54,209
of discussion that we hope
would come from this meeting.

3463
02:54:54,209 --> 02:54:55,910
And I think in every sense

3464
02:54:55,910 --> 02:54:58,500
of the way has been very
successful in that regard.

3465
02:54:58,500 --> 02:55:02,960

So I tend to look at
this as, as a marathon.

3466
02:55:02,960 --> 02:55:04,530
This is the first leg of the race

3467
02:55:04,530 --> 02:55:06,580
in terms of outlining what some

3468
02:55:06,580 --> 02:55:09,690
of those key priorities are
and where do we go from here?

3469
02:55:09,690 --> 02:55:11,265
I think we have some clear directions

3470
02:55:11,265 --> 02:55:13,530
on how to move this forward in that way.

3471
02:55:13,530 --> 02:55:17,311
So I want to thank each and
every one of you as presenters,

3472
02:55:17,311 --> 02:55:20,700
as discussants, and
the moderators as well.

3473
02:55:20,700 --> 02:55:24,050
And my coach here, obviously
for, for this meeting

3474
02:55:24,050 --> 02:55:26,587
this has been a very important meeting.

3475
02:55:26,587 --> 02:55:29,700
Carlos, did you want to say a few words

3476
02:55:29,700 --> 02:55:31,750
before we close the meeting today?

3477
02:55:31,750 --> 02:55:35,260
- Yeah, no, I'm also very,
very grateful to all of you.

3478
02:55:35,260 --> 02:55:38,220
I mean, it's been really
exceptional two days

3479
02:55:38,220 --> 02:55:40,914
with so many, so many years.

3480
02:55:40,914 --> 02:55:42,890
I mean, I maybe make,
because I'm less athletic

3481
02:55:42,890 --> 02:55:46,130
than than Will, I rather not a marathon.

3482
02:55:46,130 --> 02:55:48,290
I feel like this has been like going

3483
02:55:48,290 --> 02:55:50,552
to a restaurant and getting
the testing tasting menu, no?

3484
02:55:50,552 --> 02:55:54,530
You have sort of sample that
few of the things that are

3485
02:55:54,530 --> 02:55:56,930
in the menu, but I hope
that we can come back

3486
02:55:56,930 --> 02:56:00,090
and have a, you know,
maybe a fuller meal or

3487
02:56:00,090 --> 02:56:03,040

or several meals and we
can advance this highest.

3488

02:56:03,040 --> 02:56:05,070

I mean, we really that's
how many times weeks

3489

02:56:05,070 --> 02:56:07,030

that have been discussed
today from, you know

3490

02:56:07,030 --> 02:56:10,100

from the fallacy of the
biological fallacy of race

3491

02:56:10,100 --> 02:56:13,513

to really the biological
effects of racism,

3492

02:56:14,401 --> 02:56:15,290

ideas for interventions,

3493

02:56:15,290 --> 02:56:18,870

ideas on how to study the
consequences of our races.

3494

02:56:18,870 --> 02:56:21,840

So, I mean, this, this,
like we got to stay here

3495

02:56:21,840 --> 02:56:24,640

I'm sort of spend the whole day to the

3496

02:56:24,640 --> 02:56:26,700

continue to discuss what
we have done, but I think

3497

02:56:26,700 --> 02:56:29,740

I think we have opened the door
for many, many discussions.

3498

02:56:29,740 --> 02:56:33,150

I am again, very grateful for
all of you for being engaged.

3499

02:56:33,150 --> 02:56:36,830

I have been monitoring a
little bit on the Q and A chat

3500

02:56:36,830 --> 02:56:40,040

and a lot of contributions
both yesterday and today.

3501

02:56:40,040 --> 02:56:42,090

So the richness is, is amazing.

3502

02:56:42,090 --> 02:56:45,090

I, before we close, I want

3503

02:56:45,090 --> 02:56:46,860

I see that Nora's still connected.

3504

02:56:46,860 --> 02:56:50,134

So I wanted Nora too, to
see if you wanted to say any

3505

02:56:50,134 --> 02:56:53,690

any words to officially close the meeting.

3506

02:56:53,690 --> 02:56:56,610

– First of all, thank to everyone.

3507

02:56:56,610 --> 02:56:58,720

And I think that the
presentations are the words

3508

02:56:58,720 --> 02:57:01,213

that we should actually keep
on resonating in our brains.

3509

02:57:01,213 --> 02:57:04,550

I mean, obviously there are a lot

3510

02:57:04,550 --> 02:57:07,260

of unanswered questions and
there's an enormous amount

3511

02:57:07,260 --> 02:57:08,970

of opportunities and challenges.

3512

02:57:08,970 --> 02:57:13,750

And at the same time to
me is as we come along

3513

02:57:13,750 --> 02:57:15,480

with what should be the priorities

3514

02:57:15,480 --> 02:57:17,951

and how to implement them,
and how can NIDA help?

3515

02:57:17,951 --> 02:57:21,422

The next component, and how
can we apply this knowledge

3516

02:57:21,422 --> 02:57:26,060

to address the crisis of disparities

3517

02:57:26,060 --> 02:57:28,389

that we leave then we have lived for

3518

02:57:28,389 --> 02:57:30,740

I don't know how long, but

3519

02:57:30,740 --> 02:57:34,107

that the COVID pandemic
is making so obvious

3520

02:57:34,107 --> 02:57:38,910
and that it has generated
a momentum that we don't

3521

02:57:38,910 --> 02:57:42,552
want to miss the opportunity,
because I think that now

3522

02:57:42,552 --> 02:57:45,462
if we move strategically

3523

02:57:45,462 --> 02:57:47,700
there could be an enormous advances.

3524

02:57:47,700 --> 02:57:49,020
And I, and you already see it

3525

02:57:49,020 --> 02:57:51,355
in the excitement and commitment of people

3526

02:57:51,355 --> 02:57:55,470
about the importance of this
topic and a ways to change it.

3527

02:57:55,470 --> 02:57:58,680
So I thank you all for your commitment

3528

02:57:58,680 --> 02:58:00,980
to the idea of racial justice

3529

02:58:00,980 --> 02:58:04,760
and equality for all, and
death to discrimination.

3530

02:58:04,760 --> 02:58:06,430
Of course, this sounds so nice

3531

02:58:06,430 --> 02:58:09,340

that it says actually say, but it is.

3532

02:58:09,340 --> 02:58:12,800

I mean, we are driven by a mission

3533

02:58:12,800 --> 02:58:17,110

and to have a mission that is so basic

3534

02:58:17,110 --> 02:58:22,110

to the idea of how we
should be, I think is, is

3535

02:58:22,313 --> 02:58:24,760

should give us the
strength and the energy,

3536

02:58:24,760 --> 02:58:29,043

and the commitment and the
resilience to continue doing it

3537

02:58:29,043 --> 02:58:30,680

despite all of the challenges

3538

02:58:30,680 --> 02:58:32,810

and complexities that are thrown at all.

3539

02:58:32,810 --> 02:58:35,910

So I want to thank everyone for these.

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02:58:35,910 --> 02:58:36,743

Thanks a lot.

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02:58:36,743 --> 02:58:40,053

And thanks, Carlos, and Will,
this was really terrific.

3542

02:58:41,440 --> 02:58:42,273

- Thank you, Nora,

3543
02:58:42,273 --> 02:58:43,860
and I want to go on
record for thanking you

3544
02:58:43,860 --> 02:58:47,320
for your support and leading
this effort and your vision.

3545
02:58:47,320 --> 02:58:50,237
I know people look to
NIDA for guidance and

3546
02:58:50,237 --> 02:58:52,380
and what is NIDA doing and this

3547
02:58:52,380 --> 02:58:54,410
and I want to thank you for, for that.

3548
02:58:54,410 --> 02:58:57,080
I would also be remiss if I didn't thank

3549
02:58:57,080 --> 02:58:59,960
the research gaps and
opportunity committee,

3550
02:58:59,960 --> 02:59:02,840
as well as the contractors as well.

3551
02:59:02,840 --> 02:59:03,960
So thank you everyone.

3552
02:59:03,960 --> 02:59:06,377
This was an important
meeting and thank you all.

3553
02:59:09,106 --> 02:59:10,970
- Okay, I think we have to say goodbye.

3554

02:59:10,970 --> 02:59:13,159

- [Woman] Goodbye.

- Bye-bye.

3555

02:59:13,159 --> 02:59:14,409

- [Carlos] Bye.